

PRACTICES AND QUALITY OF INTRAPARTUM CARE IN THE MAIN REFERRAL HOSPITAL OF THE GAMBIA



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ABSTRACT

Background: Evidence-based obstetric care is widely advocated for in developing countries. However, the success of its implementation is not well documented. Selected normal childbirth practices in the main referral hospital in The Gambia, were compared to evidence-based practices using the World Health Organization established normal birth standards, as the “Gold Standard”. Direct observation of women admitted with established normal labour and review of medical records of all those observed was carried out for the quantitative paper. Women’s views, expectations and satisfaction on the care received during labour and delivery were explored. Additionally, for maternity unit staff, issues such as daily routines, practices and challenges in carrying out routine procedures were explored.

Objective: To assess the practices and quality of delivery care during childbirth in Royal Victoria Teaching Hospital delivery ward in The Gambia.

Materials and methods: The study included both retrospective and prospective designs combining also qualitative and quantitative methods. In-depth individual interviews with fifteen postpartum women and an equal number of health care providers were purposively selected. For postpartum women, their views, expectations and satisfaction on the care received during labour and delivery were explored. Additionally, for maternity unit staff, issues such as daily routines, practices and challenges in carrying out routine procedures were explored with the aim to compare these practices with current evidence-based obstetric practices.

Of the 136 women selected randomly, non-participant observation from admission through delivery was conducted using a check-list.

Descriptive analysis of data was performed and presented in two separate papers; quantitative and qualitative.

Results: Harmful or non-beneficial practices were found to be common. Routine parenteral ergometrine prophylactic 92 (67.6%), manual exploration of the uterus 90 (66.1%), intravenous infusion 74 (54.4%) and labour augmentation with oxytocin 62 (45.5%) were common practices. Routine episiotomy without indications was also a norm.

Standard beneficial practices such as assessment of vital observations of labouring women, infection control through application of universal precautions, prevention of hypothermia in the newborns and care provider-woman communication were disappointingly infrequent.

Evidence-based-care was not often applied as claimed by health care personnel in the study labour ward. Unbeneficial practices such as strict policy on lithotomy position during delivery, routine labour augmentation with oxytocin and episiotomy for all women at first delivery were mentioned by care providers. From the women's point of view, valued practices like presence of a family member as support during labour and delivery, mobility during the first stage of labour and communication with care providers were restricted. Poor staff attitude was a prominent concern to postpartum women who delivered in the study site. Empathy, patience and politeness care attitudes which women expect from care providers were lacking in the patient-provider interaction.

Conclusion: The Quality of intrapartum care in this obstetric referral hospital is below approved standard. Introducing maternity care protocols and guidelines particularly during intrapartum care with supportive supervision may significantly improve quality of maternity care services in this hospital.

Key Words: Quality of care, intrapartum care, normal labour, evidence-based obstetrics care and The Gambia.

Abbreviations

ANC	Antenatal Care
AFPRC	Armed Forces Provisional Ruling Council
CEmOC	Comprehensive Emergency Obstetric Care
CHN	Community Health Nurse
CHWs	Community Health Workers
CPR	Contraceptive Prevalence Rate
C/S	Caesarean Section
DoSH	Department of State for Health
MDGs	Millennium Development Goals
DHMTs	Divisional Health Management Teams
ECHNs	Enrolled Community Health Nurses
EmOC	Emergency Obstetric Care
HRH	Human Resource for Health
MCH/FP	Maternal, Child Health and Family Planning
MHCs	Major Health Centre
MHS	Maternal Health Services
NRHSPA	National Reproductive Health Strategic Plan of Action
EN	Enrolled Nurse
PMTCT	Prevention of Mother To Child Transmission
PHC	Primary Health Care
PI	Principal Investigator
PER	Public Expenditure Review
QOC	Quality of Care
RCHS	Reproductive and Child Health Services
RH	Reproductive Health
RVTH	Royal Victoria Teaching Hospital
SPSS	Statistical Package for Social Sciences
TBA	Traditional Birth Attendants
TWC	Technical Working Group
UN	United Nations
VDC	Village Development Committees
WHO	World Health Organization

DEFINITION OF TERMS

1. **Maternal Death:** The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
2. **Maternal Mortality Rate:** The number of maternal deaths due to pregnancy and childbirth per thousand registered births (live and still).
3. **Maternal Mortality Ratio:** The annual number of maternal deaths per 100,000 live births.
4. **Perinatal Mortality:** These are deaths occurring during late pregnancy at 22 completed weeks gestation and over during childbirth and up to seven completed days of life.
5. **Perinatal Mortality Rate:** The number of perinatal deaths per 1000 total births.
6. **Neonatal Mortality Rate:** The number of infant deaths during the first four weeks of life per thousand registered live births.
7. **Stillbirth Rate:** The number of stillbirths per thousand registered births (lives and still).
8. **Infant Mortality Rate:** The number of deaths of infants under one year per thousand registered live births.
9. **PHC Villages:** Villages with a population of 400 and more inhabitants and eligible to have a Village Health Service through the active community participation in collaboration with the DOSH & other stakeholders (PHC village are not found in urban areas).
10. **Non – PHC Village:** Village with a population of less than 400 people and without a Village Health Services (Mostly found in rural areas and bigger rural towns e.g. growth centres).
11. **First stage of labour:** Beginning of cervical dilation, regular and painful uterine contractions up to the time when the cervix cannot be felt.
12. **Second stage of labour:** From the time when the cervix could not feel up to the time be baby is delivered.
13. **Third stage of labour:** After the baby is delivered up to the delivery of the placenta.
14. **Intrapartum care:** The care given during childbirth.

DEDICATION

This final research report is dedicated to the Jeng Kunda Family in Basse Santa-su Upper River Region, The Gambia; my wife Sainabou Jarju and my daughter Geita Jeng.

I express my gratefulness and sincere gratitude to you for the patience you exercised while I am away from home for my education.

This thesis is also dedicated to my late uncle Bubu Jeng who passed away a day after I arrived in The Gambia for data collection. May His Soul Rest In Peace.

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CHAPTER 1: INTRODUCTION

1.1. Introduction

Improving maternal and neonatal health remain the most elusive of the Millennium Development Goals. At the fifty-fifth session of the United Nation's General Assembly, the Millennium Declaration was made in which key development goals commonly known as Millennium Development Goals (MDGs) were highlighted. MDG 4 and 5 focus on child mortality reduction and improvement in maternal health respectively. Target to reduce under-five mortality rate by two-thirds and maternal mortality ratio by three quarters by 2015 from its 1990 levels were set for MDG 4 & 5 respectively (1). Professional maternity care during pregnancy, childbirth and the postpartum period is outlined as an effective intervention in attaining significant improvement in both maternal and newborn health outcomes (2, 3). Unfortunately professional care is beyond the reach of many women particularly in developing countries.

Advocacy for and provision of hospital-based intrapartum care including even attendants' incentives have been major contributing factors in the reduction of maternal and neonatal deaths and disabilities globally.

Every year over 130 million babies are born globally and more than 6.3 million deaths occur during the perinatal period (4). Almost all these deaths take place in developing countries, and 27% of them in Sub-Saharan Africa. It is estimated that over 3.3 million babies are stillborn every year globally and one in every three occurs during delivery. The contributing factors to these deaths could be attributed to the place, and care during delivery (4).

The unacceptable number of stillbirths globally may be understood as a mutual reinforcement between neglect during intrapartum care, lack of information and failure to apply evidence-based obstetric care practices. Application of evidence-based obstetric care in normal child birth has encouraged adoption of practices of proven benefits and the eradication of ineffective and sometimes harmful practices.

David Scakett defined evidence-based medicine as *“the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients, this involves combining patient values with both clinical experience and expertise, and knowledge and application of the best available clinical evidence obtained from systemic research”* (5).

In developing countries the emphasis has been the improvement of access to emergency obstetric care rather than the quality of maternity care. Again, little attention has been paid in evaluating the quality and practices of such care particularly for normal birth. Thus, this study aimed to assess the practices and quality of care during normal labour.

Normal labour in this study is defined as: *spontaneous in onset, low-risk at the start of labour and remaining so through out labour and delivery. “The baby born spontaneously in the vertex position between 34 and 40 completed weeks of pregnancy”*. This WHO definition is slightly modified particularly the gestational age in weeks to suit local situation. The reason is simply due to the lack of standard of measuring the Fundal height of the woman.

In The Gambia, information pertaining to quality of maternity care particularly during childbirth is scant. Thus, assessing the quality and practices of intrapartum care is a prerequisite for setting in place interventions in attaining MDG 4 and 5. The study was carried out at RVTH being the only teaching hospital and referral to other health institutions within the country. In addition, the majority of deliveries including high-risk or obstetric emergencies from all over the country are managed in this hospital. By all accounts the maternity care services in this hospital are expected to be of high standards being a teaching hospital; it sets standards that are thought to medical and nursing students.

The study documented procedures applied to 136 women in established normal labour. The objective was to assess the relationship of these procedures to evidence-based practices. The instrument used for the non-participant observation gives an overview of 28 observed practices applied to labouring woman from admission to discharge using the WHO Technical Working Group in Normal Birth (6) categorization as the “Gold Standard”:

- A.** Practices which are demonstrably useful and should be encouraged
- B.** Practices which are clearly harmful or ineffective and should be eliminated
- C.** Practices for which insufficient evidence exists to support a clear recommendation and which should be used with caution while further research clarifies the issue
- D.** Practices which are frequently used inappropriately

In-depth individual interviews with fifteen postpartum women and an equal number of health care providers were purposively selected. For postpartum women, their views, expectations and satisfaction on the care received during labour and delivery were explored. Additionally, for maternity unit staff, issues such as daily routines, practices and challenges in carrying out routine procedures were explored with the aim to compare these practices with current evidence-based obstetric practices.

1.2. STATEMENT OF THE PROBLEM

The interventions to avert maternal deaths in the world are well documented but often not readily available to those who need them most in developing countries (7). Where these interventions are available most of the time they are of substandard.

It is estimated that between 11% and 17% of all maternal deaths occur during the process of childbirth and 50% to 70% during the postpartum period (8, 9).

Furthermore, many of these deaths that occur during the postpartum period are also attributed to substandard care during labour and delivery.

Of the 136 million women who give birth each year, nearly 20 million experience short or long term pregnancy-related illness after birth which could also be linked to the routine practices during labour and delivery. These include; sepsis, bleeding, uterine rupture and fistulae to name a few (9). In Ghana, a study revealed that only 17% of 416 births in health institutions met criteria for good clinical practice and in other studies in Nigeria and Côte d'Ivoire, technical quality was also revealed to be low in health institutions (10).

Studies have shown that every year over 4 million babies die in the first weeks of life; 3 million of these deaths occur in the early neonatal period. Moreover, it is estimated that more than 3.3 million babies are stillborn yearly; one in three of these deaths occurs during delivery and these are largely preventable. Ninety-eight percent of these deaths do take place in developing countries (4).

Stillbirth is a professional and lay term that refers to the deadborn foetus. Intrauterine death occurs either before the onset of labour [antepartum death] or during labours [intrapartum death].

Foetuses may die intra utero, before onset of labour, because of pregnancy complications or maternal diseases; however, there is no clear cut reason that can be attributed to many of these deaths. Complications arising during delivery are the main causes of death among almost all infants who were alive when labour started, but were born dead (4).

Where women receive good care during childbirth, intrapartum deaths represents less than 10% of stillbirths due to unexpected severe complications. However, in RVTH [The Gambia] the stillbirth rate is estimated at 103 per 1000 livebirths.

While national and international attention, statistics and interventions focus on liveborn infants, stillborn foetuses have largely been neglected. However, these deaths matter to the mother, the family and the health care system (4).

As it is a professional obligation to improve the quality of care of maternity services when reproductive health indicators are poor, lack of decisions based on empirical evidence makes it more challenging to avert these poor health indicators (11).

World-wide, 63.3% of births are attended by a skilled health worker. In contrast, in developed countries nearly all births are attended by skilled health personnel, compared to 59.3% in developing countries (12). This situation is worst in Africa where only 46.2 % of women give birth with professional assistance.

In The Gambia about 96% of pregnant women had at least one antenatal care [ANC] visits (13), but only 30.4% of these women delivered in health institutions (14). These low institutional deliveries may be attributed to many factors including poor quality of the hospital maternity services resulting from; inadequate medical supplies, hospital routines, lack of privacy and poor staff attitude (15). The percentage of skilled birth attendant in The Gambia (2000) is estimated at 54.7% compared to 98.3% in Canada [2001] (12). This number is even questionable as it may include TBAs deliveries in the case of The Gambia.

Although utilisation of EmOC facilities for delivery is above the 15% minimum which is recommended by the United Nation [UN], the met need for emergency obstetric care services is below the 100% target. A lower limit of 3.5% and an upper limit of 31% of the actual births in EmOC facilities of 1113 and 1550 respectively have been documented in The Gambia (16).

Furthermore, only 2.8% caesarean sections [C/S] are performed a percentage below the 5% minimum C/S rate recommended in these facilities (16).

1.3. PROFILE OF THE GAMBIA

1.3.1. Geography

The Gambia is a small country which is located on the West African Atlantic Coast and is boarded by Senegal to the North, East and South. The country has a land area of about 10, 680 square kilometres extending about 480 kilometres in land.

The country is divided into North and South Banks by The River Gambia which runs through the country from the Futa Jallon highlands in The Republic of Guinea Conakry to the Atlantic Ocean. The country is divided into five administrative divisions and two municipalities: Western Region, Lower River Region, Central River Region, Upper River Region and North Bank Region; and Banjul City Council and Kanifing Municipal Council.

The Gambia is a tropical country characterized by cooler dry season between November to May and hot rainy season between June and October. This has dropped by 30% over the past 30 years.

1.3.2. Population and Demographic Characteristic

The population of The Gambia according to the 2003 Population and Housing Census was 1, 360, 680; and had realised an increase of 31.1% from 1993-2003 (17). Current projection put the national population at 1.6 million in 2006 (18). The country has a population density of 97 persons per square kilometre and 63% of the populations are rural habitants. The annual population growth rate is estimated at 2.7% with a birth rate of 3.9. Net migration rate is estimated at 1.1 (18).

The population of the country is characterized by it youthful and feminine nature. Forty-nine percent of the population is below the age of 15 years and 50% is females. Women of reproductive-age, that is 15-49 years, represent 48% of The Gambian population.

Life expectancy of The Gambian populace at birth has consistently increased over the years as shown the table 1: below (17).

Table 1: Life Expectancy at Birth in The Gambia

Sex	Year			
	1973	1983	1993	2003
Males	32.2	41.3	58.3	62.2
Females	34.3	41.3	58.3	62.4
Both Sexes	33.2	42.8	59.3	63.4

It is estimated that a Gambian woman will give birth to 5 children during her reproductive age period, and the contraceptive prevalence rate in the country is estimated at 17%. The country enjoys a social diversity, which is made up of several ethnic groups. Despite ethnic pluralism, there is a measure of homogeneity in cultural tradition. Gender disparities are notable in that women have little decision-making power and are mainly valued for their reproductive roles. Singulate Mean Age at Marriage for males and females is 30 and 22 years respectively (17).

The infant mortality in The Gambia is estimated at 75 per 1000 and the maternal mortality ration at 730 per 100, 000 live births (2001).

1.3.3. Economy

The Gambia with an annual population growth rate of 2.7% and a Gross National Product per capita of US \$340 is regarded as one of the least developed countries in the world (19). The economic base of the country is heavily reliant on agriculture and tourism and on a limited number of cash crops, mainly groundnuts. Crop production and agriculture account for 29.8% of the country's Gross Domestic Product (17).

Consequently the country is very vulnerable to the fluctuations of the climate and to the erratic price changes in the international markets for these products (20).

According to the National Household Poverty Survey report on the poverty situation in the Gambia, 69% of the total population were classified as poor and of these 51% are extremely poor. Only 31% of the population is classified as not poor (19).

1.3.4. Health Services

1.3.4.1. Health Policy

The 1994-2000 National Health Policy has been the machinery for health initiatives and programmes over the past years focusing on maternal and child health. The policy governs most of the health intervention by the public and private sectors and it calls for the reduction of maternal and infant morbidity and mortality.

The Department of State for Health [DoSH] in collaboration with other stake holders revised and replaced the current National Health Policy with the “Changing for Good” health policy in September 2001 (21). The goal of this health policy is to improve access and provide quality health services within an enabling environment and to be delivered by appropriately and adequately trained skilled health personnel.

A key element of the policy is the health care package which aimed at addressing the common causes of morbidity and mortality among women and children. The guiding principle to the attainment of this policy goal is improving the efficiency and effectiveness in the organisation and management of the health sector, through management reform, community participation and devolution of responsibilities, authority and resources to hospitals, Divisional Health Management Teams [DHMTs] and the Village Development Committees [VDCs] (21).

1.3.4.2. National Human Resource for Health Policy

Towards the goal of attaining the MDGs, the Human Resource for Health Policy was developed in 2004.

This policy document is intended to assist all stakeholders in the health sector in dealing with the human resource issues that continue to negatively impact on the health of the population of the country. The goal of the policy is to focus on the entire Human Resource for Health [HRH] process including planning, training and utilization of HRH according to the requirement of The Gambian population. The policy is also in agreement with the National Health Policy in providing good health for the citizens of the country.

1.3.4.3. National Reproductive Health Policy

The Reproductive Health [RH] Policy was developed in 2001, reviewed and endorsed by Cabinet in December 2002 for implementation. The goal of this policy is to improve the quality of reproductive life for all persons living in The Gambia through the promotion of reproductive health and prevention of morbidity and mortality associated with reproduction. The guiding principle to this goal is to ensure improved access to quality reproductive health services through a comprehensive “Reproductive Health Programme”. Furthermore, a National Reproductive Health Strategic Plan of Action [NRHSPA] and Guidelines has been developed to assist all those involved in the health care of the population in the country to move from policy into appropriate and concerted action (22).

1.3.5. Organization and Administration

The Government of The Gambia adopted the Primary Health Care [PHC] approach since its inception in 1978. The public health service delivery system in The Gambia is based on the PHC strategy consisting of primary level [comprising of community base services provided mainly by community health workers]; secondary level [health centres and dispensaries] and tertiary level [comprising mainly of hospitals].

Community-based PHC activities have been operating in selected villages with a population of at least 400 in rural Gambia since 1980. The PHC services are provided by a government paid trained Community Health Nurse [CHN] who supervises between 5-7 villages; community volunteers, [Village Health Worker and a Trained Traditional Birth Attendant], in PHC villages.

These Community Health Workers [CHWs] are responsible for carrying out community health education activities, treatment of minor illnesses and injuries and provide referral links between the community and the formal health system.

Reproductive and Child Health Services [RCHS] with a vaccination programme are also available and accessible to the populace in both PHC and non-PHC villages.

The secondary level comprised of health facilities such as clinics, dispensaries, minor and major health centers. These health facilities are supposed to be staffed with trained nurses, midwives and support staff.

In 1998 each of these health facilities even at the community level has at least one Medical Officer. The services carried out at this level are mainly preventive and curative [out-patient and inpatient]. At this level there are seven (7) Major Health Centers [MHCs] one of which is private, twenty (20) Minor Health Centers [12 public] and thirty-nine (39) dispensaries and only sixteen are public. All these health facilities served as referral facilities to the tertiary level.

The tertiary level comprised of hospitals which are expected to provide all the other services carried out at the other levels including specialist care. One of these hospitals is the Teaching Hospital.

Nearly 30% and 73% of the public and profit and non-profit health institutions are located around the urban area respectively.

In line with the health policy “Changing for Good”, the Government of The Gambia in 1993 divided the country into six (6) “Health Regions” commonly known as the Revisional Health Teams [RHT]. The RHT is responsible for all health activities in the region. These also include: definition of the health needs of the community and devising strategies to address those needs, ensuring and sustaining good standards of care through regular and objective supervision, collection and analysis of relevant data for decision making.

During the same period the public hospitals were reformed into semi-autonomous with their own management boards responsible for the daily running of the hospitals.

1.3.6. Human Resource for Health in The Gambia

The Human Resource for Health [HRH] situational analysis carried out between 2002 and 2003 highlighted a number of HRH issues that may contribute to the poor performance of health system of the country. The rapid expansion of the health care delivery service, gross shortage of indigenous skilled HRH, which is worsen by the high attrition rate among skilled staff, mal-distribution of health personnel [due to lack of clear guidelines for staff promotion, posting and transfer, poor working environment] have compromised the goal of the National Health Policy for equal access of health services for all.

The Public Expenditure Review [2001] revealed that the doctor per population was 1:5678, and for that of nurses and midwives was 1:1964 and 1:5614 respectively. The geographical distribution of both public and private sector doctors, nurses and midwives however is still uneven (23).

The nurses in the country provide the bulk of clinical care at all levels of the public health sector. In The Gambia there are three cadres of nurses: Registered Nurses, Enrolled Nurses [ENs] and Enrolled Community Health Nurses [ECHNs].

A Registered Nurse is a professional nursing cadre with the highest academic qualification; the EN and ECHN are para-professional nursing cadre. The Public Expenditure Review has shown that, during a three year period [1997-2000] the number of the nursing cadre in the public sector had declined considerably (23). Overall, there were 263 midwives working in both public and private sectors and about 92% (243) are in the public sector. Royal Victoria Teaching Hospital alone has about 36% (84) of the total number of midwives in the country (23).

This mal-distribution of staff especially the midwifery cadre within the public health institutions has contributed to the unprecedented effects such as waiting time and patient per midwife ratio. The impact of this nurse per population ratio will negatively affect the quality of health care delivery within the public health institutions. Selected health indicators of The Gambia are presented in Table 2.

Table 2: Health Indicators of The Gambia

Indicator	Measure
Contraceptive Prevalence Rate	17.5%
Antenatal Care Coverage	97%
Maternal Mortality Ratio	730 per 100,000 LB
Infant Mortality Rate	84 per 1000 LB
Under Five Mortality Rate	135 per 1000 LB
Institutional Delivery	30%
Skilled Birth Attendant	54.7%
HIV Prevalence	1.2%

1.3.7. Maternal, Child Health and Family Planning Services

The Maternal, Child Health and Family Planning [MCH/FP] Programme was initiated since 1975 in The Gambia. The aim of this programme is to improve the health and well-being of women and children through the provision of: antenatal care, safe delivery, postnatal care, family planning, and nutrition education, child welfare services which include immunization and growth monitoring and development. It was until the inception of the PHC approach in 1978 the Government of The Gambia decentralised the MCH/FP services throughout the six health regions in the country.

Since 1994, the government placed the health sector as its top priority to extend and improve its performance in order to meet the needs of its citizens.

For instance, the government has been expanding its health infrastructure nationwide to ensure that the majority (97%) of women live within an approximate radius of 5km of health services [Primary Health Care or Outreach Health Post]. These services include: antenatal care, safe delivery, postnatal care and immunization.

They are both static and mobile clinics where preventive and curative services are offered to mothers and children. In the same vein to improve the health of women, midwives in the country were trained on life saving skills over one year period to strengthen the provision of Emergency Obstetric Care [EmOC] particularly at the Major Health Centre level with the aim of reducing maternal and infant morbidity and mortality.

However, this initiative was not sustainable due to the high attrition rate in the country. Traditional Birth Attendants [TBAs] were also trained at the village level in The Gambia to conduct deliveries with low obstetric risk, carry out postnatal follow up, health education and make prompt referrals.

By the end of 2003, an EmOC needs assessment in The Gambia indicated that the country has 4 Comprehensive Emergency Obstetric Care [CEmOC] health facilities serving a projected population below 1.5 million (16). These facilities are therefore enough as far as the United Nations [UN] guidelines are concerned which recommend at least one facility for every 500,000 populations.

1.3.8. Referral Service in The Gambia

According to the health policy of the country, patients are supposed to be referred from the primary level to the secondary level then to the hospital level. Unfortunately this pattern most of the time is not followed. It is the responsibility of the government of the country to provide each public health facility with an ambulance. Such ambulances have dual purposes, one for the evacuation of emergencies from one level to the next level and trekking of the health personnel for RCH services. The fuelling and maintenance of these vehicles are under the jurisdiction of the Department of State for Health [DoSH]. It is not uncommon for such channel to be violated due to the perceived quality of maternity care services which include: cost, availability of the vehicle, drugs and supplies, staff attitude and previous experiences.

CHAPTER 2: BACKGROUND

2.1. EPIDEMIOLOGY AND BURDEN

Maternal mortality is a tragedy-both in terms of magnitude of the problem and in terms of equity and social justice. Women are crucial to social and economic development, and their health especially their reproductive health is an important factor in this. When a woman cannot work, the effects have been shown to be severe for her children, as they tend to spend their time and income on improving the family welfare. Motherless children are less likely to get health care and education (24).

A study in Bangladesh found that when a mother dies, her children and especially her daughters are at greater risk of dying than children whose parents are both living (25).

As maternal health problems account for 18% of the burden of disease in developing countries and the cost of basic maternal health services that could prevent these health problems is very low, and maternal health interventions are among the most cost-effective investment in health (24). Thus, maternal and child mortality reduction are being echoed in many international conferences and most recently at the fifty-fifth session of the United Nation's General Assembly, where the Millennium Declaration was made in which key development goals were highlighted. MDG 4 and 5 focus on child mortality reduction and improvement in maternal health respectively. Target to reduce under-five mortality rate by two-thirds and maternal mortality ratio by three quarters by 2015 from its 1990 levels were set for MDG 4 & 5 respectively (1).

Professional maternity care during pregnancy, childbirth and the immediate postpartum is outlined as an effective intervention in attaining significant improvement in both maternal and child health outcomes (2, 3). Unfortunately professional care is beyond the reach of many women particularly in developing countries. (3). For example, countries that have successfully reduce their maternal mortality ratio by ensuring skilled attendants at birth are; Cuba, Egypt, Jamaica, Thailand and Sri Lanka (26).

World wide, nearly half a million women die every year as a result of pregnancy and childbirth-related causes and, these causes are essentially the same around the world.

Four major causes of maternal deaths that have direct link to intrapartum care are; haemorrhage, sepsis, hypertensive disorders of pregnancy and obstructed labour, accounting for (25%), (15%), (12%) and (8%) of these deaths respectively (27). Most of these deaths (99%) occur in developing countries and, World Health Organization [WHO] indicated that 1 in 14 of these deaths occur in sub-Saharan Africa compared to 1 in 4000 of which occur in the developed regions (8, 27). This difference is due to many factors including lack of skilled attendance during delivery, unmet needs for lifesaving interventions such as caesarean section, intermittent shortages of antibiotics and blood transfusion facilities (28).

Countries that have managed to reduce maternal mortality significantly [Sweden, Netherlands, Denmark and Norway] made these services accessible and readily available (28). In Sub-Saharan Africa to achieve similar improvement is a major challenge. Quality of care provided to women during the intrapartum period is poor even if available. Poor quality of care is a consequence of inadequate skills of attendants, lack of equipment, drugs, supplies, non-existence of blood transfusion services, ineffective referral systems and, application of practices that are scientifically ineffective (24).

The growing demand for health care, constrained resources, and evidence of variations in clinical practice during intrapartum have increased governments' interest in measuring and improving quality of institutional delivery care services in many countries including The Gambia (29).

‘Studies have shown that every year over 4 million babies die in the first weeks of life; 3 million of these deaths occur in the early neonatal period. Moreover, it is estimated that more than 3.3 million babies are stillborn yearly; one in three of these deaths occurs during delivery and they are largely preventable. Ninety-eight percent of these deaths do take place in developing countries.

Stillbirth is a professional and lay term that refers to the deadborn foetus. Intrauterine death occurs either before the onset of labour [antepartum death] or during labour [intrapartum death] (4).

Foetuses may die intra utero, before onset of labour, because of pregnancy complications or maternal diseases; however, there is no clear cut reason that can be attributed to many of these deaths.

Complications arising during delivery are the main cause death among almost all infants who were alive when labour started, but were born dead (4). Where women receive good care during childbirth, intrapartum deaths represents less than 10% of stillbirths due to unexpected severe complications (4). While national and international attention, statistics and interventions focus on liveborn infants, stillborn foetuses have largely been neglected. However, these deaths matter to the mother, family and the health care system (4).

The Government of The Gambia identifies maternal mortality as a challenge and currently is improving availability and access to EOC around the country (30). In general, access to health care in the country is good at a radius of 5 km for 97% of the population (13). Sadly maternal mortality remains unacceptably high in The Gambia estimated at 730 per 100 000 live births (31). Access to EOC services is inadequate to alter this poor health indicator and that quality of hospital maternity care could be a key determinant to alter this poor indicator.

Although, access to MHS is generally good as evidenced by about 97% of the population living within an approximate radius of 5km of health services (13), significant numbers still die even within the health institutions. For example, in 2001, a study using the sisterhood method was carried out in the country and it revealed that forty-six percent of the 260 maternal deaths identified occurred in health institutions (31). Literature posits that not only the access of hospital maternity care services that are important to achieve the reduction of institutional maternal deaths, rather the quality of care that saves the lives of mothers (32). In the same study over 60 percent of the women who died had given birth to between 1 and 3 children during their lifetime and 17 percent of the maternal deaths were of parity 6 and above (31).

In 2003 maternal mortality study conducted in the country revealed that the maternal mortality levels were unacceptably high ranging from 2,133 /100,000 live births in AFPRC Hospital to 3,690/100,000 live births in Bansang Hospital. In Royal Victoria Teaching Hospital (the main reference hospital) located in the urban setting; the ratio is 1,121 per 100,000 live births (19, 33). These high levels could be attributed to the disproportionate number of high risk deliveries in these hospitals but yet still unacceptable.

Thus, one may argue that access to hospital maternity care alone may not guarantee good delivery outcome. Rather, the quality of services and inter-personal aspects may be the key determinants.

In 2003 an EOC needs assessment in The Gambia indicated that the country has 4 CEmOC health facilities serving a projected population of below 1.5 million (16). These facilities are therefore enough as far as the UN guidelines are concerned which recommend at least one facility for 500,000 populations.

Although utilisation of EmOC facilities for delivery is above the 15% minimum which is above that recommended by the UN, the met need for emergency obstetric care services is below the 100% target. A lower limit of 3.5% and an upper limit of 31% of the actual births in EmOC facilities of 1113 and 1550 respectively have been documented (16). Furthermore, only 2.8% caesarean sections [C/S] are performed a percentage below the 5% minimum C/S rate recommended in these facilities (16).

The Case fatality Rates [CFR] range from 2.8% to 5.6% which is also high. According to the UN guidelines the CFR in such a health facility should be less than 1% (16). This high CFR in these facilities could be as a result of many factors which may include- insufficient skilled personnel such as nurses, midwives or doctors; incompetence of the available personnel; shortage of basic equipment; drugs and other medical supplies; poor communication between clients and service providers; poor quality of supervision; lack of protocols and guidelines; shortage of water, unreliable electricity and hospital maternity routines that are scientifically ineffective. All these factors could have an adverse effect on the quality of care of those women who seek obstetric services in these EmOC facilities (16).

These are all indications that women who are really in need of obstetric care are either not utilising the services or are not getting the care that they deserve.

“The role that quality of care play in the decision to seek care is related to people’s own assessment of service delivery, which largely depends on their own experiences with the health system and those they know” (34).

Evidence suggests that patient’s opinion of hospital practices and the quality of care directly influences his or her compliance with treatment including continuity of the patient-health worker relationship which together has an influence on maternal health outcomes (35).

Patients’ perception of the quality of services is increasingly being viewed as one of the important measures of quality of health care (32).

2.2. DEFINITION

Quality of care [QOC] means different things to different people as such there is no single universally accepted definition (36). However, definition of quality of care should address both the content and the process of the care being provided. This will aid in the assessment of quality and areas to be targeted for improvement.

Quality is subjective, but from a medical perspective, it can be measured against some defined, evidence-based standards of approved quality care.

A more recent definition [Institute of Medicine, 1990] states that; “Quality of care is the degree to which health services for individuals and population increase the likelihood of desired outcomes and are consistent with current professional knowledge” (37).

“The degree to which maternity care for individuals increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and upholds basic reproductive rights of women” (38). This working definition provided the basis from which the study created a quality assessment framework for institutional delivery services.

2.3. CONCEPTUAL FRAMEWORK

This study was concerned with the practices and quality of delivery care in RVTH in The Gambia. The study assessed a number of distinct but related components of delivery care provided to women delivering in hospital delivery wards. These included clinical care during labour and delivery; support during labour and delivery; resources [human, material]; and the physical environment where care was being provided (38).

Donabedian’s model of quality assessment was utilized in this study. This model was chosen because it described all the important components and elements of the health care delivery system that are essential in quality care.

It describes a holistic approach in assessing quality care focusing on ‘**structure**’, ‘**process**’, ‘**output/outcome**’, ...Structure outlines the attributes of the settings [physical structure, equipment, drugs, supplies and staff characteristics] in which care is offered;

Process describes the actually giving and receiving [diagnosis and treatment] of the care...Outcome denotes the effects of care on the health status of individuals and populations. Structure and process may influence outcome either directly or indirectly. These two main dimensions of the health care system which may be assessed are the most relevant to evaluate the practices and quality of intrapartum care using either national or international guidelines as the “Gold Standard”. Outcome is difficult to measure in this study because of its long time requirement, but patient’s satisfaction of the care they received can be seen as an outcome. Donabedian further states that the process can be divided into two components: **technical interventions** and **interpersonal relations** between the health professionals and the clients” (29).

This model has been applied in assessing the quality of maternity care services successfully in different countries such as; Nepal (39), Pakistan (37) and Botswana (40).

2.4. Quality aspects of maternity care.

Maternity care services are different from other health care services in the following ways:

1. Most users of maternity care are well. Therefore, maternity services need to be conscious of over treatment as well as over-medicalizing pregnancy and childbirth, which can lead to complications and waste of resources.
2. Some users of the services will develop conditions requiring a high level of maternity care. Many of these conditions are unpredictable and life threatening. Maternity services, therefore, need to be wary of under treating some women.
3. Maternity care services targets at least two recipients, the mother and the baby. Outcome of both are very important, so pros and cons for each should be counter balanced.
4. Maternity services deals with the cultural and emotionally sensitive area of childbirth.

To ensure that maternity care services are of good quality, it is important to acknowledge and incorporate evidence-based practices in the care of labouring and delivering women in health institutions.

Assuring these women good quality of care during this critical period in health institutions is challenging as there are many factors that are interrelated to ensure that the services at this level are of good quality.

Studies have revealed that there is a wide margin between research evidence and the actual practices during delivery in hospital labour wards, in Lebanon (30), Palestine (41), China (42), Zambia (15), Swaziland (43), Tanzania (44), UK (45) and Egypt (46).

Frequently observed practices in these studies include; vaginal examination, episiotomies, perineal shaving, restricting water and food, continuous intravenous fluids and lithotomy position during deliveries which are proven to be ineffective or even harmful sometimes. In some instances labouring women are tied to the bed to restrict their movement (15, 30, 41-46). All these are indications contributing to the low institutional deliveries in developing countries.

In Ghana, a study revealed that only 17% of 416 births in health institutions met criteria for good clinical practice and in other studies in Nigeria and Côte d'Ivoire, technical quality was also revealed to be low in health institutions (10).

It is assumed that if health care personnel are equipped with the skills, knowledge and equipment needed to use evidence-based knowledge during intrapartum care this will go a long way in reducing maternal and newborn morbidity and mortality. While it is a professional obligation to improve the quality of care of maternity services when reproductive health indicators are poor, lack of decisions based on empirical evidence makes it more challenging to avert these poor health indicators (11). In the spirit of preventing morbidity and mortality attributed to intrapartum care, it is a pre-condition to understand its importance and intervene to avert this pathetic situation. It is argued that “adequate medical care including skilled attendance during labour, delivery, and in the immediate postpartum period could prevent 75% or more of maternal deaths” (47).

Unfortunately this doesn't apply in the case of Dominican Republic where the maternal mortality is high estimated between 110 and 229 per 100 000 live births with almost universal institutional delivery and skilled attendant at birth (48).

Deaths do occur in hospital maternities and it is essential to understand the contributing factors to these deaths in order to act accordingly. The following are some quality aspects of maternity care that can contribute to some extent in the reduction of maternal and newborn morbidity and mortality in health institutions.

2.4.1. Evidence-based practices

Research has demonstrated that obstetric care quality can be improved immensely if health care personnel adhere to a number of routine practices that are evidence-based (49). For example active management of the third stage of labour is proven to be an effective strategy of preventing postpartum haemorrhage, which is one of the five leading cause of maternal deaths in the world (50).

Another important intervention in the early detection and diagnosis of puerperal sepsis is the measurement of temperature during the intrapartum and postpartum period (51). This simple intervention if applied may avert 15% of maternal deaths that occur globally due to sepsis. The lack of knowledge, Skills and standards can encourage the incorrect practices during the intrapartum period which may compromise the quality of care.

2.4.2. Human resource for health

The maternity units should be staffed with qualified and skilled health personnel who provide care and services for 24 hours and 7 days a week. One of the most important elements of quality of maternity care especially during intrapartum period is the availability of skilled attendants during birth. “There is evidence why governments should invest in the skilled attendants, especially during the period of childbirth (26). Inadequate knowledge and skills of health care personnel can encourage the incorrect use of reproductive technologies which can affect both the mother and the newborn (24).

Complications arising during labour and delivery can be prevented with the appropriate interventions during this period [such as clean delivery and monitoring of labour to detect prolong and obstructed labour as well as foetal distress] (26). These can be achieved by applying aseptic techniques and the use of the partograph.

The best person to apply these strategies is someone with some midwifery background who can recognise and manage complications that may arise during labour and delivery, as well assist normal deliveries. Literature has shown that more than three quarters of all maternal deaths in developing countries occur during or soon after delivery.

It is proven that countries with low skilled attendants at birth tend to have high levels of maternal mortality and morbidity. For example in the case of Mongolia when women resort to home deliveries where skilled attendants are not available, due to poverty and health system failure, the maternal mortality ratio rose from 120 to 210 per 100 000 live births between 1991 and 1994 (26). This is a clear indication of the importance of a skilled attendance at birth. Ensuring adequate trained health personnel for maternal health care is a key component in the attainment of the Millennium Development Goal 5 by 2015 in developing countries (52).

The association between skilled attendants at birth and the reduction of maternal morbidity and mortality especially in health institutions is well documented except for Dominican Republic where the maternal mortality is high despite the universal skilled attendant at birth (48).

2.4.3. Drugs, Equipment and Supplies

Many health institutions in developing countries face chronic shortages of drugs, equipment and basic supplies such as blood transfusion (34).

Adequate equipment, drugs and supplies are absolutely necessary in the maternity ward to enable the health personnel to enhance skilled attendance during labour and delivery.

Making sure that adequate drugs, equipment and other supplies are available in the maternity wards is critical in the implementation of skilled attendance in the labour ward and also maintaining good quality of care (2).

In the absence of this quality of maternity care cannot be guaranteed. It was observed in one study in Dominican Republic, where health personnel pour cold water over the patient's abdomen and perineum as a form of surgical preparation because they could not afford soap or antiseptic solution (53).

2.4.4. Protocol and Guidelines

Written protocols and guidelines for management of maternity conditions (labour and delivery) can enhance quality of care during labour and delivery. Absence of these monitoring tools can encourage the incorrect use of interventions during labour and delivery which can be detrimental to both the mother and the newborn.

The availability of these written criteria for managing labour and delivery can play an important role in improving the quality of care during labour and delivery, especially technical quality as well as some aspect of systemic quality, for example proper resources management (24). With good quality of maternity care, it is assumed that there should be an increase utilization of services and decreased in mortality and morbidity (35). The World health Organisation has designed and advocated for the use of the partograph with the sole aim to improve the management of labour and to reduce the incidence of women dying from obstructed labour.

A study carried out in Nigeria revealed that of the 216 (54%) of the 396 participants were aware of the partograph in health institutions but only 18% of them use the partograph routinely (54).

The same study also revealed that among those who routinely used the partograph about 49% do not know how to use it correctly. In another study in Lebanon revealed a wide spread lack of written guidelines in hospital maternities. Out of 39 sampled hospitals 33 (85%) and 30 (77%) reported of not having any standard birth procedure and written practices against which to evaluate the care they provide to labouring and delivering women respectively (30). This implies that there is no systematic method of recording what constitute care of good quality.

2.4.5. Monitoring and Supervision

Supervision involves monitoring the practices and quality of work carried out by the health staff. The practices and quality of care should be measured against written criteria with the aim of improving care.

Supportive supervision and monitoring which should involve the health personnel in the process of assessing the quality of maternity care and devising solutions for the identified problems is critical to ensure that quality improvements are sustained (55).

2.5. RATIONALE FOR THE STUDY

The reproductive and child health indicators in The Gambia are unacceptably high. Again some studies conducted in the country have shown that about 66% of all maternal deaths in hospitals are due to direct causes and 75% of these are avoidable (14, 56, 57).

The other motivating factors for undertaking this study are of the increasing interest in the reduction of the poor maternal and newborn health outcomes in developing countries and The Gambia is no exception. These include the need to ensure that health care investment results in improved health, the widespread evidence of practice variations, and reports of inappropriate care in maternity wards (58). MDGs 4 & 5 cannot be attained in the absence of improved maternity care practices.

The World Health Organization has estimated that normal deliveries constitute 80% of all deliveries globally (6) but these are not risk free. It is assumed that hospital practices for normal labour are free of problems; this is not always the case. Birth is a risky event both for the mother and the baby especially if done inappropriately (2). To achieve the reduction of maternal and perinatal deaths, it is a prerequisite putting in place interventions and strategies based on empirical evidence.

Studies that look at hospital based practices for normal labour has never been carried out in The Gambia. This was the purpose of assessing the practices and quality of delivery care in Royal Victoria Teaching Hospital.

CHAPTER 3: AIMS OF THE STUDY

3.1. RESEARCH QUESTION

What is the quality of delivery care in Royal Victoria Teaching Hospital delivery ward?

3.2. PURPOSE OF THE STUDY

To assess the practices and quality of delivery care during normal birth in Royal Victoria Teaching Hospital in The Gambia using WHO Technical Working Group's established normal birth standards.

3.3. OBJECTIVES OF THE STUDY

1. To describe the practices and quality of care provided to women during the first, second and third stage of labour.
2. To describe the practices and quality of care provided to women and newborn babies during the immediate postpartum.
3. To explore the views of postpartum women about the care they received.
4. To explore the views of health care providers about adoption of evidence-based obstetric care during normal childbirth.

3.4. VARIABLES

3.4.1. Woman

3.4.1.1. Hospital admission procedures

Background information [demographic and socio-economic] about the woman; measurement of temperature, pulse and blood pressure; listening to the foetal heart; assessment of foetal presentation and progress of labour; recording of findings in labour files or partograph; routine intravenous infusion in labour; interaction and communication between woman and health worker.

3.4.1.2. Management of first stage of labour

Use of partograph; recording of foetal heart; vaginal examination; Artificial rupture of membranes; mobility; oxytocin augmentation; bladder catheterisation;

3.4.1.3. Management of second stage of labour

Labour position; episiotomy; use of gloves; Fundal pressure;

3.4.1.4. Management of third stage of labour

Examination of the placenta; manual exploration of the uterus; measurement of blood loss; oxytocics prophylactics and active management of third stage;

3.4.2. Baby

3.4.2.1. Resuscitation measures

Assessment of baby vitality at birth (Apgar score); Resuscitation

3.4.2.2. Prevention of hypothermia, wrapping and positioning of the baby

Skin-to-skin contact with mother; wrapped and placed close to the mother; placed in the nursery ward.

3.4.2.3. Cord and eye management

Measures used for the prevention of eye and cord infection.

3.4.2.4. Weight of the baby

Weight of the baby measured and recorded.

3.5. STUDY AREA

This study was carried out in The Gambia which is located on the West African Atlantic Coast and is bordered by Senegal to the North, East, and South.

The country is divided into six health divisions, including Western Health Division which is the biggest health division with a population and population density of 902, 942 and 138 per square kilo meter respectively. The division is further divided into three administrative areas namely; Banjul City Council, Kanifing Municipal Council and Brikama Area Council. The division represents 57% of the country's population with an annual growth rate of 5.9 (59). There are 16 health facilities and two referral hospitals in the division that provide delivery services.

The study was particularly carried out at RVTH [situated in Banjul, the capital city of the country], being the only teaching hospital and referral to other health institutions within the country. In addition, the majority of deliveries including high-risk or obstetric emergencies from all over the country are managed in this hospital. By all accounts the maternity care services in this hospital are expected to be of high standards being a teaching hospital; it sets standards that are thought to medical and nursing students.

3.5.1. SELECTION OF STUDY AREA

The study was carried out at RVTH located in Banjul, the capital city of the country with a population of about 35, 061. This facility was chosen for various reasons which include:

1. It is expected that this hospital has the highest number of deliveries in the country. Nearly 6044 deliveries takes place in this hospital annually and more than 80% of pregnant women in Banjul deliver in this hospital (16, 33).
2. Royal Victoria Teaching Hospital alone has about 36% (84) of the total number (263) of midwives in the country (23).
3. It is a national referral hospital, which takes care for the majority of high-risk deliveries, obstetric emergencies and uncomplicated deliveries from all over the country.
4. It is also used as a teaching hospital where student doctors, midwives and nurses from the University of The Gambia and Gambia College School of Nursing and Midwifery carried out their clinical practices to gain clinical experience.
5. By all accounts the maternity care services in this hospital are expected to be of high standards being a teaching hospital.

CHAPTER 4: METHODOLOGY

4.1. STUDY DESIGN

Considering previous studies and current knowledge in intrapartum care, we decided to use a combination of methods, sometimes called as “triangulation”. In triangulation, combination of one or more data sources, methods or investigators are applied (60, 61). The method combination was important in that it enhance the validity and reliability of the study design.

A cross sectional design was implemented and its advantage is that data is collected at once.

In this study it was the “quality” of facility intrapartum care that was studied. The Donabedian’s conceptual frame-work in quality assessment was used (29). However, the WHO Technical Working Group Categorization of Normal Birth (6) was the “Gold Standard” in measuring the quality of care. We used both quantitative and qualitative data collection methods. However, the main focus of the study was “quantitative”. Qualitative method was applied to answer the reasons why health care worker were not applied evidence-based obstetric practices.

4.2. STUDY POPULATION

Women in established normal labour and postpartum women admitted in the maternity ward during the period July and December 2007 formed the study population. Health care personnel attending to deliveries were also included as research subjects.

4.3. SAMPLE SIZE AND SELECTION

4.3.1. Quantitative Data

Sample size for the quantitative part of the study was calculated based on the assumption that 15% of all pregnant women will develop complications, thus will need obstetric care (2). Women in this study were selected because of their expected uneventful pregnancies [pregnancies without complications].

We assumed that 85% of all pregnancies will be complication free, thus a total of 136 women was calculated to be the required sample based on this assumption as shown below:

Calculation of the sample size based on the precision of the proportion:

$$n = \frac{(1.96)^2}{d^2} \times p(1-p)$$

where **n** is the required sample size, **p** is the expected proportion to be detect, **d** is the length of 95% confidence interval of the proportion (the 95% confidence interval) not to be wider than $\pm d$. For example: **p** = 0.85 (85%), we would like to conclude that the true proportion was probably between 0.79 (79%) and 0.91 (91%) (or we can say that we would like our 95% confidence interval of the true proportion to be no wider than ± 0.06 or we can say that we would like the precision of the proportion to be ± 0.06). Then the required sample size (**n**) is:

$$n = (1.96 \times 1.96 \times 0.85 \times 0.15) / (0.06 \times 0.06) \approx \mathbf{136}$$

Individual women were selected using a systematic random sampling where every third eligible woman in normal labour was approached for inclusion. Those willing to participate were recruited. However, we did not attempt to compare women in normal birth with those who had a complication.

4.3.2. Qualitative Data

For the qualitative part of the study, the validity, meaningfulness and insights generated from this kind of investigation entirely depends on the information richness of the participants recruited and the skills and analytical qualities of the researcher. Thus, the number of participants recruited in the study was generally determined by “theme saturation”, implying that no additional theme would emerge by carrying on with the interviews, but as a rule, 20-30 participants are thought to be adequate (62). Participants were purposively selected to include women of different number of previous births experiences.

Fifteen postpartum women were recruited for the in-depth interview and these were different from those observed quantitatively. The reason was to minimize bias. It is assumed that interviewing other set of women than those observed is a way of validation.

Health care workers attending to deliveries and working in the labour ward were eligible for inclusion for the in-depth interview. Only 15 were available for interview. One category [Cubans] of the health care workers was unavailable and one nurse midwife who declined to participate for personal reasons.

4.4. INCLUSION CRITERIA

1. Full term pregnant women in active labour within 3-6cm cervical dilatation.
2. Women who delivered between July and December 2007.
3. Health care workers (doctors, midwives, nurses etc) in the labour ward that attend to deliveries.

4.5. EXCLUSION CRITERIA

1. Women in labour but not within 3-6cm cervical dilation.
2. Those women and health care workers not willing to participate in the in-depth interview.

4.6. RESEARCH ASSISTANTS

A research assistant was recruited well before the actual start of data collection. A postgraduate Community Health Nurse acquainted with qualitative research. She was sensitized on the purpose and objectives of the study and introduced to the interview guide. She conducted the individual in-depth interviews with the postpartum women.

4.7. DATA COLLECTION

4.7.1. PLAN FOR DATA COLLECTION

The plan for data collection developed assisted the Principal Investigator [PI] to have a clear overview of the different tasks to be carried out and who was supposed to do what.

This assisted in organising both human and material resources in a most efficient manner and minimised errors and delays that might have resulted from lack of planning [e.g. data collection instrument being inadequate and not knowing where to find the data]. There were two stages to the data collection process: 1. Data collection methods, 2. Data processing and analysis.

4.7.1.1. Data Collection Methods

Data was collected mainly by the PI with the assistance of the research assistant. Data was collected while the women in labour were still admitted in the hospital. Postpartum women were interviewed at the child well clinics. Health care personnel were also interviewed.

Two main data collection techniques were applied in this study, and they included:

4.7.1.1.1. In-depth interview: These interviews involved the preparation of an interview guide that list a pre-determined set of questions or issues that were to be explored during the interview. It served as a checklist and ensured that uniform data were collected from all the interviewees. The objective of such technique was to bring to light rich and comprehensive data that would be useful for planning. It was characterised by extensive probing and allowed the health personnel to share their experiences, challenges and possible solutions to improve the maternity care services. Women's views were explored using different interview guide too. The women were asked about the care they receive during labour and delivery, their impressions about the maternity environment and staff and what the hospital should do to promote '*women friendly*' care.

4.7.1.1.2. Non-participant observation: In this data collection technique the researcher selected, watched and recorded the hospital maternity routines without participating in the

situation (63). Non-participant observation as a data collection tool was applied to generate information related to the interaction between the women and the health care providers, interventions during childbirth and the frequency of these interventions. A 115-item checklist was applied during the observation that contained guidelines related to: demographic characteristic of the woman, maternity admission procedures; management of first, second and third stage of labour; immediate care of the newborn and prevention of hypothermia. During the non-participant observation the researcher remained in the labour ward without interfering with the care being provided.

4.7.1.2. Data Collection Tools

The instrument used was developed in close consultation with the supervisor and has both quantitative and qualitative sections.

The instrument used for the non-participant observation seeks to collect information on practices applied to the labouring woman from admission to discharge. This was compared with the World Health Organization Technical Working Group in Normal Birth (6) categorization:

- A.** Practices which are demonstrably useful and should be encouraged
- B.** Practices which are clearly harmful or ineffective and should be eliminated
- C.** Practices for which insufficient evidence exists to support a clear recommendation and which should be used with caution while further research clarifies the issue
- D.** Practices which are frequently used inappropriately

This section of the questionnaire tool has “Yes” and “No” options implying presence or absence of a variable respectively.

The tool also incorporated an interview guide section which aimed to explore women’s views on the care they received during labour and delivery, also a section on health care personnel’s account of the challenges on adopting evidence-based obstetric care at their work area. In this study we could not include all the WHO practices during normal childbirth for various reasons. Those practices that were not included in the observation checklist are shown in Table 3.

Table 3: WHO classification of practices not included by reasons for exclusion

1. Practices preceding arrival at the labour ward

Respecting choice of place of delivery; Having had a birth plan; Risk assessment of pregnancy during prenatal care; Providing care in labour and delivery at the most peripheral level.

2. Practices subjected to observer subjectivity

Empathic support by care givers during labour and birth.

3. Practices not offered at the labour ward

Pubic shaving; Enemas; Rectal examination; Use of X-ray pelvimetry; Non-invasive; non-pharmacological methods of pain relief during labour; Nipple stimulation to increase uterine contractions; Pain control by epidural analgesia; Electronic foetal monitoring; Use of oral tablets of ergometrine in the third stage of labour; Routine lavage of the uterus after delivery; Wearing masks and sterile gowns during labour attendance; Routine prophylactic insertion of intravenous cannula.

4. Practices difficult to assess

Sustained direct bearing-down efforts; Maneuvers related to protecting the perineum.

4.7.1.3. Data collection process

The non-participant observation was between September and December 2007. This method was applied on labouring women admitted at the labour ward of the hospital during the study period. A detail description of this process is discussed under paper one [page 58].

Health care personnel were individually interviewed by the PI. A more detail description of this process is also discussed under data collection process paper two [page 75].

4.8. DATA HANDLING

4.9. DATA PROCESSING AND ANALYSIS

Once the data was collected it was only accessible to the PI for the purpose of confidentiality. The quantitative data that was collected we cross-checked for accuracy and clarity in recording of the intended information before storage. Each individual case was given a code for ease of sorting.

Individual in-depth interviews were recorded on numbered tapes with codes according to cadre of the health care workers. For postpartum women, age and parity were used as a code.

These case records were entirely under the custody of the PI under lock and key. In this study two different data sets were collected [quantitative and qualitative] and they were also analysed differently.

The quantitative data was analysed using the Statistical Package for Social Sciences [SPSS] version 15. The raw data from this study was entered daily by the researcher and cross-checked by a statistician to ensure correct entries before the analysis.

The statistician contributed immensely in screening the already entered raw data for out layers. Frequency tables and cross tabulations were used to present the quantitative results. This was due to the categorical nature of the variables that were collected.

Qualitative data analysis went simultaneously with data collection to enhance the emergence of the themes grounded in the empirical data (62). Summary notes were written and attached using the same codes to each interview conducted. All data was transcribed verbatim, typed and stored safely. At the end of the data collection, the already commenced data analysis process continued. Data was categorized into themes and sub-themes and analysed manually. Content analyses according to emerging or frequent themes were used to analyse the qualitative data. This was thought relevant as qualitative data analysis highly depend on the skills of the researcher but not any software package.

4.10. PILOTING

To check the feasibility of the data collection instruments prior to the start of data collection, it was pretested on subjects that have the same characteristics with the intended subjects of the study. The pilot site was not the same as the study site. The pretesting and review of the data collection instrument helped improve on the acceptance, clarity, applicability and duration it takes to administer the instrument.

4.11. ETHICAL CONSIDERATION

Approval to carry out the study was obtained from the Ethical Review Committee in Norway and the Joint Gambia Government and Medical Research Council Ethic Committee. The Royal Victoria Teaching Hospital Ethic Committee also approved the study.

In the Gambia generally people are not comfortable when asked to sign documents even after explanation and the literacy level among women is also very low. Therefore, during the non-participant observation oral informed consent was applied for the women and the health care providers attesting the consent in writing.

Information concerning the purpose, procedures, benefits and autonomy were provided to all women.

The presence of the observer [PI] was always likely to cause behaviour change and it was important that this bias was kept at a minimum. In this setting the unit of observation was a process of delivery. We observed interactions, a provider/patient dyad, and not individual cases.

Thus, the maternity staffs were far more conscious of the presence and purpose of the observer than the labouring woman. During longer period of observation it was difficult for the health care personnel to maintain their artificial standards of behaviour, and therefore any changed behaviour was unlikely to persist. The PI who is also a nurse midwife only intervened when the life of the woman was threatened by a procedure and this would be stated in the results of the study. The PI conducted all the non-participant observations.

The health care providers were informed about the purpose of the study through the hospital management and were given an option to opt-out. Despite the fact that the health personnel were informed by the hospital authority, the PI equally informed them of the purpose of the study. For the in-depth interviews both women and health care providers consented to participate in the interview.

To ensure confidentiality only the PI and the research assistant had access to the information. The information was kept under lock and key by the PI during the course of the study.

CHAPTER 5: SUMMARY OF MAIN FINDINGS

5.1. PAPER 1

Hospital intrapartum practices versus evidenced-based obstetrics: Normal birth in Gambia's main referral hospital

Baba Jeng, Johanne Sundby and Mamady Cham

Evidence-based obstetric care is widely accepted as a good strategy in reducing mortality and morbidity during intrapartum, but the success of its implementation in developing countries is not known. Using selected intrapartum practices, this study compared normal labour and delivery practices against evidence-based practices in Royal Victoria Teaching Hospital in The Gambia.

Results of this study indicated that many obstetric practices in the study labour ward did not concord with evidence-based guidelines.

Practices which are clearly harmful or ineffective and should be eliminated were common. For example, all (136) vaginal deliveries included lithotomy delivery, parenteral ergometrine prophylactic 92 (67%), manual exploration of the uterus 90 (66%), use of intravenous infusion 74 (54%) and oxytocin augmentation 62 (45.5%). The inadequate assessment of vital signs of the women, routine use of episiotomy, deliveries with poor aseptic measures and inappropriate care of the newborn baby were frequently observed.

Failure of health workers to inform women about procedures and involving them on their own care was a common practice.

Lack of protocols and guidelines on normal delivery, absent of supportive supervision inadequate instruments, staff shortage, low salary and staff attitude may be the answers to these problems.

5.2. PAPER 2

Challenges for adoption of evidence-based maternity Care in Gambia's main referral hospital

Baba Jeng, Johanne Sundby and Mamady Cham

Presented in this paper are the individual in-depth interviews with 15 health care providers and 15 postpartum women who delivered in the study labour ward in the last 6 months. The study explored postpartum women's views about the care they received from health care workers during labour and delivery at the study site. It also explored health care providers' views about the challenges in adopting evidence-based obstetric practices in their work setting.

The results of both quantitative and qualitative study [paper one and two] demonstrate some consistency between actual practice during hospital-based intrapartum care and views of health care providers and women about failure to apply evidence-based obstetric care.

The study revealed that most of the health care providers were unaware of the recent intrapartum evidence-based care recommendations. In-depth interviews with health care workers have revealed that harmful and sometimes uncomfortable practices were frequent, even though studies and systematic reviews do not suggest any evidence of their benefits. These include lithotomy position during delivery, labour augmentation and routine episiotomy for primiparous women. Practices which are clearly supported with evidence to be of benefits were infrequently employed by health care providers. For example, support during labour and delivery, mobility in the first stage of labour, interpersonal relationship and skin-to-skin contact.

Findings of the study have shown areas in hospital-based intrapartum care that need great attention according to testimonies of women. These include the staff attitude and interpersonal relationship of health care workers with labouring women to provide optimum care to women during labour and delivery.

The working conditions of the health care providers may be responsible for the problem identified in this study.

CHAPTER 6: LIMITATIONS, VALIDITY AND RELIABILITY OF THE STUDY

6.1. LIMITATIONS

Specific limitations of the study are discussed in their respective papers. However, there is one general methodological issue that is worth noting in this study. That is, “Lack of national guidelines on normal labour and delivery”. Using International guidelines is an alternative but has its own shortcoming as it might not be wholly applicable in all countries. “*Every country is like any other country, but every country is unlike any other country*”. Thus, each country should have its own maternity guidelines that are tailored to suit its own local situation.

6.2. VALIDITY AND RELIABILITY

Assessing the quality and delivery practices of hospital maternities required a combination of different methods to have a divergence perceptive of the subject under study. Combination of observations and records reviewed could also be seen as strength in this present study in addition to being a validation strategy it identifies gaps in records, a key component of intrapartum care.

Improving the validity of the results of the study, both quantitative and qualitative methods were applied. The inclusion of both postpartum women and health care workers in addition to direct observation of delivery practices complimented each other to enrich the findings of the study. The used of multiple data source provided a comprehensive understanding of the quality and practices of intrapartum care understudy by complimenting each other.

Training of the research assistance on the data collection instruments, pilot testing of the instruments and continuous checking of the collected data daily also enhanced the validity and reliability of the findings of the study.

CHAPTER 7: GENERAL CONCLUSION AND RECOMMENDATIONS

7.1. CONCLUSION

1. Royal Victoria Teaching Hospital is expected to be the role model of all other hospitals in the country being the main referral center, but appears not to keep up to date with evidenced-based practice during normal childbirth. Nor does it have a mechanism to systematically evaluate the practices of maternity health care providers.
2. Maternity health care providers' attitudes were influential on women's expectations and satisfaction of maternity care services. Staff attitude may have some serious implications on the acceptability and uptake of the hospital-based intrapartum care services which is a key priority of WHO towards the aim to reduce maternal and perinatal mortalities and morbidities.
3. We are with the assumption that staff attitude, such as over-medicalisation, bad practice or abusive health workers, towards women during labour and delivery could contribute to the low institutional deliveries in the country.

7.2. RECOMMENDATIONS

1. The principles of evidence-based obstetrics care should be included in all health teaching institutions, professional meetings and in-service training. This will enhance health care providers to abreast themselves with current research developments.
2. Development of evidence-based protocols especially on normal labour and delivery with the participation of all levels of maternity health care providers would be the way forward in promoting evidence-based maternity care in the study labour ward.

3. To avoid the reused of unsterile delivery equipment it is important to provide the labour ward with a sizeable autoclave machine that the staff can use incase they exhaust their delivery trays.
4. Strategies to alleviate heavy caseloads such as staff employment and retention should be look into.
5. It is imperative to repeat this kind of study to describe and characterize maternity care services for normal labour and delivery nation wide, considering the unacceptable levels of maternal and infant mortality situation in the country.
6. In the long term, it may be necessary to consider in a teaching hospital where evidenced-based obstetric care practices are not followed, intervention-related research may be required to implement changes in provider's practice and thus improving the quality of hospital maternity services.

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Paper One

Hospital intrapartum practices versus evidence-based obstetrics: Normal birth in Gambia's main referral hospital

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HOSPITAL INTRAPARTUM PRACTICES VERSUS EVIDENCE-BASED OBSTETRICS: NORMAL BIRTH IN GAMBIA'S MAIN REFERRAL HOSPITAL

ABSTRACT

Objectives: To assess practices and quality of intrapartum care in the main referral hospital in The Gambia.

Methods: A prospective study using quantitative methods was carried out in Royal Victoria Teaching Hospital where an estimated 6044 deliveries occur annually. Of the 136 women selected randomly, non-participant observation from admission through delivery was conducted using a check-list.

Results: Harmful or non-beneficial practices were found to be common in this hospital. Routine parenteral ergometrine prophylactic 92 (67.6%), manual exploration of the uterus 90 (66.1%), intravenous infusion 74 (54.4%) and labour augmentation with oxytocin 62 (45.5%) were common practices. Routine episiotomy without indications was also a norm. Standard beneficial practices such as assessment of vital observations of labouring women, infection control through application of universal precautions and care provider-women communication were disappointingly infrequent

Conclusion: The Quality of intrapartum care in this obstetric referral hospital is below standard. Introducing maternity care guidelines and protocols particularly on intrapartum care with supportive supervision may significantly improve quality of care in this hospital.

Key Words: Quality of care, intrapartum care, normal labour, evidence-based obstetrics care and delivery practices.

INTRODUCTION

Every year over half a million women die of pregnancy and childbirth related causes and more than 6.3 million perinatal deaths occur around the world (1). Almost all these deaths take place in developing countries, mostly in Sub-Saharan Africa. Of the estimated annual 4 million stillborn babies one in three occur during the peripartum period. The contributing factors to such mortalities are thus closely linked to the place of delivery and most importantly the care received during labour and delivery (1).

The high intrapartum deaths [maternal and foetal] can be seen as outcome of combination of factors including neglect of intrapartum care, lack of information and failure to apply evidence-based obstetric care practices. Application of evidence-based obstetric care encourages adoption of practices of proven benefits and eradication of ineffective and sometimes harmful practices.

Access to prompt and high quality emergency obstetric care and skilled attendance during delivery are key interventions to reduce maternal mortality and perinatal losses. Often receiving such services required going to a health facility. Thus, increasing proportion of institution delivery particularly facilities providing emergency obstetric services.

Evidence-based medicine is defined as “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individuals patients, this involves combining patient values with both clinical experience and expertise, and knowledge and application of the best available clinical evidence obtained from systemic research” (2).

In developing countries the emphasis has been the improvement of access to emergency obstetric care rather than the quality of maternity care with very little attention paid to evaluating quality and practices during normal uncomplicated births.

In The Gambia, both maternal and perinatal mortality are high estimated at 730 per 100000 live births and 55 per 1000 births respectively (3). Enthusiasm to addressing these challenges are high in The Gambia with a country roadmap developed (4). Most previous studies in The Gambia focused on maternal mortality with little attention to assessing intrapartum care. Thus, information on the quality of intrapartum care is scant.

Assessing the quality and practices of intrapartum care is essential to continuously improving intrapartum care and towards the attainment of Millennium Development Goals 4 [reducing child mortality] and 5 [improving maternal health].

This present study was an attempt to assess the quality of intrapartum care in Royal Victoria Teaching Hospital, the main referral hospital, in The Gambia. The objectives of the study were:

- to identify demonstrably useful practices which should be encouraged.
- to identify harmful or ineffective intrapartum practices which should be discouraged.
- to identify intrapartum practices frequently used inappropriately

STUDY COUNTRY

The Gambia is located in West Africa and is boarded by Senegal to the North, East, and South. With an estimated population of 1.4 million inhabitants, the country is divided into six health administrative regions; including Western Health Region with a population of just over 700,000 consisting of 57% of the country's population. This region is also the most densely populated with an estimated 138 people per square kilometre (5). Western Health Region comprises of three local government administrative authorities namely: Banjul City, Kanifing Municipal and Brikama Area Councils (6). There are up to 16 public health centres facilities and two referral hospitals in this region.

The study was carried out at RVTH being the only teaching hospital and referral to other health institutions within the country. In addition, the majority of deliveries including high-risk or obstetric emergencies from all over the country are managed in this hospital. By all accounts the maternity care services in this hospital are expected to be of high standards being a teaching hospital; it sets standards that are thought to medical and nursing students.

Selected maternal indicators of the study site are presented in Table 1.

Table 1: Maternity Indicators of Royal Victoria Teaching Hospital 2007

Indicator	No.	Calculated Indicators
1. Deliveries	6044	
2. Caesarean sections	919	Caesarean Rate = 15.2%
3. Instrumental deliveries	114	
4. Live Births	5418	
5. Still Births	626	Still Births Rate = 10.3%
6. Maternal Deaths	84	Maternal Mortality Ratio = 1,550/100,000 LB

Methods and materials

The study was carried out in RVTH, in the capital city of the country. In addition to providing specialist obstetric care services, this hospital also provide normal uncomplicated delivery care to women within its immediate environment (5, 7). With the advent of the medical faculty, the hospital has recently been upgraded as a “Teaching Hospital” where medical and nursing students from the University of The Gambia go for internship.

Definitions

Normal labour was defined in this study as “spontaneous from onset, low-risk from start of labour through delivery and immediate postpartum”. Thus, women with complications prior to the onset of labour were excluded. Normal labour also implies that “the baby in vertex presentation was born spontaneously at not fewer than 34 completed weeks of pregnancy” (8). The WHO definition of normal labour was applied with slight modification of gestational age. Lack of standard method of measuring the fundal height in The Gambia was the rationale for the modification.

Data collection

The study used two data sources; direct observation of women admitted with established normal labour and review of medical records of all those observed. The study was conducted in the delivery ward of RVTH. The staffs of the labour ward were sensitized by the Director of Health Services of The Gambia, through the maternity in charge, about the study purpose and objectives.

During a three-month period [September to December 2007], women in established labour were individually observed by the author using a 115-items checklist to collect information on intrapartum practices and care information collected were compared with the WHO Technical

Working Group's established normal birth standards (8), which was the "Gold Standard" in this study. Demographic data of the women, admission procedures, labour management [first, second and third stages of labour] including care of the newly born baby were collected. The data collection questionnaire includes a "Yes" and "No" options implying presence or absence of a variable respectively.

A systematic random sampling of every third eligible woman admitted in the maternity labour ward was carried out. The number of days spent in the labour ward and number of deliveries observed per day varied. Any woman who comes to the labour ward and admitted in active labour between 3-6cm cervical dilatation, single foetus, vertex presentation and full term pregnancy [34-40 weeks pregnancy] was eligible for inclusion in the study.

The PI only introduced himself as a researcher at the time of admission; this was to allow these women to settle down. At this stage it was assumed that women are usually anxious about their well-being and that of their unborn baby. Thus, consenting at this moment was thought to be unethical. Nonetheless, the PI was noting down all interactions between the health care provider and the woman in labour at this stage on a note pad to be used later if the woman consented and fit the inclusion criteria.

Identification of women fitting the inclusion criteria was only done after preliminary assessment of the status of labour and the woman admitted in the labour ward. The PI then verified from the case notes of these women to sort out those fitting the inclusion criteria.

Any eligible woman was then approached and recruited with their consent into the study in close consultation with the admitting midwife or nurse. Of all (136) women invited to participate none declined giving us a 100% participation rate.

Observation of eight women who presented with no complications during admission and fit the inclusion criteria for the study, were discontinued along the process of labour due to cephalo-pelvic disproportion [5 women], delivered by LSCS due to breech [1 woman], and the other two women the observer could not wait to witness their completion due to time factor.

The data from the partially observed were not included in the data analysis. The observer continued to recruit women applying a systematic randomization of every third woman until the desired sample (136) size was achieved.

The PI was present all the times the health care providers were carrying out any procedure for that particular woman participating in the study until such a time that she was discharged from the labour ward or she discontinued from the study due to unforeseen complications arising during the process of labour and delivery.

A total of 530 hours of direct observation of 136 labouring women was carried out within 58 days. Sometimes the investigator had to stay in the labour ward for 14 hours to complete observations, on average 2 women were observed daily. The average number of hours spent on observing a woman from admission to discharge to the postnatal ward was 3 hours.

Data Management and Analysis

All data files were accessible to only the PI for the purpose of confidentiality. To ensure accuracy, clarity and completeness in recording of the data, all data files were cross-checked. Each individual woman was given a unique code number to avoid mixing of case records. The data was analysed using the Statistical Package for the Social Sciences [SPSS] version 15. Frequency tables and cross tabulations were used to present the quantitative results.

Ethical Issues

Approval was granted by the Ethical Review Committee in Norway, the Gambia Government and Medical Research Council Joint Ethical Committee and the Royal Victoria Teaching Hospital Ethical Committee before the start of the study. The Principal Investigator was responsible for obtaining the ethical clearance to proceed with the study.

RESULTS

Characteristics of the women

Thirty-nine primiparous and 97 multiparous women were enrolled and their age ranged from 16 to 47 years with a mean age of 28. Parity was from zero to 11 children with a mean of 3 births. Majority of the women 53 (38.9%) had formal education with the exception of few who had never been to formal school.

Of the 136 women, 126 (92.6%) were married and engaged in household work 94 (69.1%), few 14 (10.3%) were petty traders, 10.3% (14) civil servants, students 10 (7.4%), farmers 3 (2.2%) and 1 (0.7%) a house maid.

Vital signs monitoring and recordings

One hundred and thirty-four (98.5%) of the 136 women had their antenatal cards on admission, 85 (62.5%) of these were reviewed for previous obstetrical history and antenatal attendance. Vital signs of the participants and foetal observations and recordings are presented in Table 2, below.

Table 2: Vital signs monitoring and recordings

EXAMINATIONS	ON ADMISSION				SUBSEQUENT			
	TAKEN		RECORDED		TAKEN		RECORDED	
	(n=136)	(%)	(n=136)	(%)	(n=136)	(%)	(n=136)	(%)
Blood Pressure ¹	68	50.0	71	52.2	43	31.6	43	31.6
Pulse ¹	22	16.2	22	16.2	15	11.0	15	11.0
Temperature ¹	15	11.0	15	11.0	12	8.8	12	8.8
Foetal heart ²	89	65.4	94	69.1	11	8.1	11	8.1

¹Subsequent here means after delivery of the baby

²Subsequent here means foetal heart monitored with foetal stethoscope 4 hourly

Vaginal examination was performed for all women on admission and nearly all these vaginal examinations 95.6% (130) were performed by a midwife and students 6 (4.4%). Findings in all those examinations were recorded on the partograph. Sterile gloves were used in 35.2% (48) of these vaginal examinations.

Swabbing of perineal areas prior to vaginal examinations was performed in only 7 (5.1%) of women on admission. Further analysis revealed that of all perineal areas swabbed before vaginal examination, 5 were by midwife and a student 2. Hand washing after vaginal examination was observed in 98 (72.0%) occasions.

Emptying of the bladder by catheterization was performed for 32 (23.5%) of the women and 21 (65.6%) of these was at the time of admission and the rest was after delivery of the baby.

Of all the examinations performed only vaginal examination findings was communicated to just 36.0% (49) of the women.

Labour Management

First stage of labour

The frequencies of selected routine practices observed during this period are shown in Table 3. Of the 62 women whose labour were augmented with syntocinon, 29 (46.7%) were primiparous, 20 (32.2%) para 1-3, 5 (8.0%) para 4-6 and 8 (12.9%) para more than 6. The dosage administered was indicated in only 5 (8.1%) of the 62 women. All 57 (91.9%), but five of the women who had an augmented labour were ordered by a doctor 3 (2.2%) and student 2 (1.5%). Documentation of timing of procedures performed on women's case files was less frequent. Of the 47 women whose birth waters (membranes) were artificially ruptured, only in 18 was time of the procedure indicated.

Table 3: Observed practices during first stage of labour

Practices	Frequency	
	(n=136)	(%)
1. Partograph initiated ¹	136	100
2. Partograph used throughout labour and delivery	0	0
3. Allowed oral fluids ¹	6	4.4
4. Allowed to move ¹ about within the ward	27	19.8
5. Gave intravenous infusion ²	74	54.4
6. Labour augmented ² with Oxytocin	62	45.5
7. Artificial rupture of membranes on no indication ³	47	34.5

¹ Practices which are demonstrably useful and should be encouraged

² Practices which are clearly harmful or ineffective and should be eliminated

³ Practices of insufficient evidence and should be used with caution

Second stage of labour

Midwives attended deliveries is very high in this study as shown in Table 4.

Table 4: Deliveries by attendant

Delivery Attendant	Deliveries		Episiotomies		Scalpel used		Perineal tear	
	(n=136)	%	(n=27)	%	(n=18)	%	(n=23)	%
Doctor	2	1.4	1	3.7	0	0.0	0	0.0
Midwife	119	87.5	25	92.5	17	94.4	18	78.2
Student Midwife	10	7.3	0	0.0	0	0.0	4	17.3
Nurse ¹	2	1.4	1	3.7	1	5.5	1	4.3
Auxiliary Nurse	3	2.2	0	0.0	0	0.0	0	0.0

¹Nurse with no midwifery training

In 61 (44.8%) of the deliveries, the delivery trays used were not sterile. Of the 136 deliveries observed, only 54 (39.7%) delivery trays used were complete. Further analysis revealed 81 (68.0%) of the midwife attended deliveries, the delivery tray was only prepared after an alarm by the woman through shouting that “the baby is coming”. Delivery procedures were explained to only 17 (12.5%) of the birthing women. All 136 women were instructed to adopt a supine position during delivery as shown in Table 5.

Table 5: Practices observed during second stage of labour

Practices	Frequency	
	(n=136)	(%)
1. Instructed to be in lithotomy position ¹	136	100
2. Episiotomies ² performed	27	19.8
3. Application of Fundal pressure ³	36	26.4

¹Practices which are clearly harmful or ineffective and should be eliminated

²Practices which are frequently used inappropriately

³Practices of insufficient evidence and should be used with caution

Twenty-seven women had an episiotomy and none of the episiotomies performed were done under anaesthesia. Nineteen of the episiotomies were performed on primiparous women.

Midwives performed 25 of the episiotomies as shown in [Table 4] and 4 of these ended in a perineal tear. Further analysis revealed that 5 of the episiotomies were performed on para one woman, para two [2 women] and para four [1 woman]. Episiotomy scissors was only used in 9 of the episiotomies.

The sex of the baby was informed to the mother in 106 (77.9%) of 136 deliveries. Contact of the baby with the mother immediately after birth was noted in 46 (33.8%) of the deliveries.

Third stage of labour

Vital signs immediately after delivery of the placenta such as: blood pressure, temperature and pulse were poor as shown in Table 2. To rule out urine retention bladder inspection was done for 68 (50.0%) of the women.

No blood loss measurement was performed for a single woman. Examination of the placenta to confirm that there are no retained products was noted in 13 (9.5%) women. Post delivery uterine examination in 116 (85.2%) women was observed.

Duration of stay in the labour ward was less than one hour in 107 (78.6%) of the women.

Oxytocin or ergometrine was administered post delivery for 26 and 92 women respectively. Of the 62 women given pitocin augmentation initially, 35 and 13 were also given ergometrine and pitocin prophylactic after delivery respectively. Further analysis revealed that 4 women received neither ergometrine no pitocin prophylactic after delivery of the placenta.

Immediate Newborn Care

Apgar score at first minute after birth were assessed and recorded for 85 babies. In 72 babies the Apgar score was between 8 to 10, and score between 5 to 7 in 13 babies. In all these the scores were recorded on the partograph.

Eighty-nine of the (136) newborns resuscitated, 58 of those were performed by an Auxiliary Nurse. The rest were performed by midwives (14), Student midwives (10), orderlies (6) and record clerk (1). Forty-seven of the 72 babies needing no suction actually had it using an unsterile suction tube.

Only 4 of the 136 babies were dried before been wrapped in a dry cloth. Wrapping the newborn wet was a common practice noted. Furthermore, only 46 (33.8%) observed babies were placed on the abdomen of their mothers following delivery.

The majority 82 (60.2%) of babies were bath in less than 5 minutes of birth and perineal pad was used as a bathing material for all 136 babies.

After been weighed and bathed all babies were placed in a cot and none was put to the mother's breast to suckle. No routine examination of newborn was observed in any of 136 deliveries.

DISCUSSION

Strikingly substandard quality of intrapartum care was found in Gambia's main obstetric referral hospital characterised by too frequent harmful practices than would be expected in a group of women who were selected because of their expected uncomplicated pregnancies, and disappointing less frequent beneficial or effective intrapartum care practices. Many deficiencies in intrapartum care are identified in this study. Most of the obstetric practices in this hospital are not supported by current international guidelines (8). Practices which are harmful or ineffective such as birthing in strict lithotomy position, routine use of ergometrine, manual exploration of the uterus, use of intravenous infusion without indication and labour augmentation with oxytocin are common. Beneficial practices including vital signs monitoring, application of aseptic measures and immediate care of the newborn baby were found to be less frequent.

Direct observation of every bit of intrapartum care from admission through delivery availed the opportunity to have first hand comprehensive information which are practically not retrievable from medical records.

Combination of observations and records reviewed could also be seen as strength in this present study in addition to being a validation strategy it identifies gaps in records, a key component of intrapartum care.

Limitation may be the selection of one hospital for study which can be a potential source of bias as it may not be representative of all Gambian hospitals.

This hospital was selected purposively, being the most advanced and assumed to provide superior quality of care in the country. We are with the opinion that substandard care in this hospital tells a bigger picture in the rural hospitals.

The presence of an observer may introduce bias as it influences practices and care offered. To overcome that, the principal investigator actually started collecting data not until after two weeks observation. The rationale was to allow maternity care staff to resort to their usual routines and practices.

Labour Management

The infrequent monitoring and incorrect recording of blood pressure, [Table 2], observed in this hospital is worrying and cause for concern considering the fact that hypertensive pregnancy disorders including pre-eclampsia is an important cause of maternal mortality in The Gambia (3, 9). Importantly close monitoring of the blood pressure during labour is important in that eclampsia occurs without prior warnings and that expedite delivery by caesarean section in such situations is known to reduce adverse foetal outcomes (8).

Labour augmentation with oxytocin should only be in situations with strong indication (8). In contrast, this intervention was routine 62 (45.5%) in this hospital. This figure is significantly higher than the 4-25% quoted in many standards text books (10). It is not clear what prompted this situation but non-existence of guidelines and also the overwhelming number of labouring women reporting at the labour ward may have compelled the limited number of staff on shift to expedite the delivery process. Similar high use of oxytocin was reported in studies in Egypt (11), Sweden (12) and Turkey (13).

Inappropriate use of oxytocin may have negative impact for both the woman and unborn baby.

Uterine hyper-contractions may cause ruptured uterus leading to severe bleeding resulting in either maternal or foetal death or both (14). Neonatal seizures have been reported to be associated with labour being augmented with oxytocin (8).

Despite clear evidence recommending restrictive episiotomy (15), our study revealed routine use of episiotomy 27 (19.8%), and almost as a norm for primiparous women. Out of 39 primiparous women, 19 had an episiotomy and similar situation was also documented in Egypt (11), Palestine (16), Lebanon (17), China (18), Hong Kong (19) and Turkey (13).

Reasons for routine episiotomies in the study labour ward could be “blankets” policies by health care workers, implying that all primiparous women should have an episiotomy.

Health care workers may assume episiotomies will substitute a ragged laceration and is easier to repair.

However, studies [Argentina] have been carried out to investigate on the routine use of episiotomy based on these assumptions and data from these studies did not support this hypothesis (8). Our study also revealed that 15% of all the 27 episiotomies performed on women enrolled in the study end up in perineal tear.

Routine episiotomies may increase the risk of vertical transmissions of HIV/AIDS. The risk of infection from finger prick injury in this study could be very high as the right instrument [episiotomy scissors] was not readily available most of the time. The health care providers were using surgical blades in 18 (66%) of the 27 episiotomies performed during the study which is risky for the health care worker, woman and her newborn baby.

Poor compliance to infection control policies (washing of hands after vaginal examinations, use of sterile gloves in vaginal examinations and sterile delivery instruments), in this labour ward is common. On several separate occasions for example, midwife’s attending to a delivery with gloved hands performed fundal pressure and use the same gloves to perform vaginal examinations.

Intravenous infusions was frequent 54.4% (74) in this hospital as documented else where (11, 16, 17, 20). The frequency of invasive procedures such as oxytocin injection, intravenous infusions and vaginal examinations, routine episiotomy coupled with the poor observance of universal precautions to infection prevention found in this study should be a major cause of concern.

This finding provides possible explanation to the high maternal deaths due to sepsis reported previously in this hospital (9). Risk of HIV transmission during labour and delivery in this hospital is also potentially high. This high risk is less likely to change as the country’s PMTCT programme focus entirely on prevention during the antenatal than during labour and delivery. It is recommended that renewed emphasis on the intrapartum period for HIV/AIDS prevention is warranted.

Information to women on examinations performed on them was virtually absent. Women had no choice in position during labour and delivery. They were restricted to a position that may differ with their preference.

Frequent vaginal examinations often without strong indications were common. These practices combined may explain why the majority (70%) of Gambian women opt for home than health facility deliveries (7).

Delivering at home offer social support often with familiar faces and is also devoid of frequent vaginal examinations. Everything in such deliveries is performed in a calm and caring fashion.

The immediate newborn care practices found in this study, including infrequent contact between mother and baby, bathing of babies within five minutes of delivery often using a perineal pad, the unnecessary resuscitation of babies not needing such interventions and allowing an orderly to be performing resuscitation are telling of substandard newborn care in this hospital. This situation we believe could have been averted if there were guidelines and protocols on newborn care.

The survival of infants is of course important in itself, and it can also be seen as an important strategy to the reduction of the overall risk of maternal mortality and morbidity, as a woman who loses her baby is more likely to get pregnant again soon.

Conclusion

Our findings identified striking gaps in the quality of intrapartum care in this Gambian teaching hospital. The frequently observed harmful practices may have resulted from a combination of factors including non-existent intrapartum care protocols and guidelines as well as the poor or inexistent supervision in this hospital. It is recommended that introduction of evidence-based intrapartum care guidelines and protocols with effective supervision will greatly improve the quality of maternity care and particularly intrapartum care.

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Paper Two

Challenges for adoption of evidence-based maternity care in Gambia's main referral hospital

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CHALLENGES FOR ADOPTION OF EVIDENCE-BASED MATERNITY CARE IN GAMBIA'S MAIN REFERRAL HOSPITAL

Abstract

Objectives: We explored women's opinions on the quality of labour and delivery care in the main referral hospital in The Gambia. Maternity care routines in the hospital from care providers' perspective were also explored.

Methods: In-depth individual interviews with fifteen postpartum women and fifteen health care providers were purposively carried out. For the women, their views, expectations and satisfaction on the care received during labour and delivery were explored. Additionally, for maternity unit staff, issues such as daily routines, practices and challenges in carrying out routine procedures were explored with the aim to compare these practices with current evidence-based obstetric practices.

Results: Evidence-based-care was not often applied as claimed by health care personnel in the study labour ward. Unbeneficial practices such as strict policy on lithotomy position during delivery, routine labour augmentation with oxytocin and episiotomy for all women at first delivery were mentioned by care providers. From the women's point of view, valued practices like presence of a family member as support during labour and delivery, mobility during the first stage of labour and communication with care providers were restricted. Poor staff attitude was a prominent concern to postpartum women who delivered in the study site. Empathy, patience and politeness care attitudes which women expected from care providers were lacking in the patient-provider interaction.

Conclusion: Labour and delivery care as found in this study fall far below both the expectations of women and current evidence-based obstetric practices. This situation could be influenced by the poor working conditions in this hospital. It is assumed that findings of the study will help put in place strategies and interventions to improve maternity care services based on empirical evidence.

INTRODUCTION

Skilled birth attendance at delivery is an important intervention to a significant reduction in maternal and neonatal morbidity and mortality. This often involves delivering in health care institutions. Thus, hospital-based intrapartum care is promoted as a policy.

The growing demand for maternity care services, constrained resources [human and material], and evidence of variations in clinical practice during the intrapartum period have increased governments' interest in measuring and improving quality of maternity care services, including institutional delivery in many countries (1), including The Gambia. In developing countries where both maternal and newborn deaths are highest, increasing access to emergency obstetric care and proportion of deliveries by skilled birth attendant should be the main focus (2, 3).

The Gambian Government recognised maternal and neonatal mortality reduction as a priority area of intervention and developed a national road map to addressing them. Improving availability and access to EOC around the country is identified as a key area in that endeavour (4).

Improved availability of and access to such care, however, does not always guarantee women high quality of care (5). Evidence-based obstetric care is one important strategy in ensuring that women receive good quality intrapartum care (6). Evidence has shown that obstetric care quality can be improved significantly if health care personnel routinely adhere to evidence-based practices (7). However, in developing countries, health care personnel's adoption of evidence-based obstetric care practices is disappointing (7). Many factors may be responsible for that, including absence of maternity care protocol and guidelines, inadequate number of skilled attendants particularly midwives, shortages of drugs, equipment and other basic supplies.

This study is "qualitative" but the paper is a report on the expectations and ratings of intrapartum care quality among women who recently delivered in the main referral hospital in The Gambia. Intrapartum care routines and practices from care providers' perspective in this hospital were also sought.

Study site

The Gambia is located in West Africa and is bordered by Senegal to the North, East, and South. With an estimated population of 1.4 million inhabitants, the country is divided into six health administrative regions; including Western Health Region with a population of just over 700,000 consisting of 57% of the country's population. This region is also the most densely populated with an estimated 138 people per square kilometre (8). Western Health Region comprise of three local government administrative authorities namely: Banjul City, Kanifing Municipal and Brikama Area Councils (9). There are up to 16 public health centres and two referral hospitals in this region.

The study was carried out at RVTH being the only teaching hospital and referral to other health institutions within the country. In addition, the majority of deliveries including high-risk or obstetric emergencies from all over the country are managed in this hospital. By all accounts the maternity care services in this hospital are expected to be of high standards being a teaching hospital; it sets standards that are thought to medical and nursing students.

Conceptual Framework

The study was concerned with the “challenges for adoption of evidence-based maternity care in a Gambian Teaching Hospital”. The study assessed a number of distinct but related components of delivery care provided to postpartum women who delivered in the study site.

These include clinical care during labour and delivery; support during labour and delivery; resources (human, material); and the physical environment where care was being provided (10).

Donabedian's model of quality assessment was utilized in this study. This model was chosen because it describes all the important components and elements of the health care delivery system that are essential in quality care. It describes a holistic approach in assessing quality care focusing on ‘**structure**’, ‘**process**’, ‘**output/outcome**’, ...Structure outlines the attributes of the settings in which care is offered; Process describes the actually giving and receiving of the care...Outcome denotes the effects of care on the health status of individuals and populations. Donabedian further states that the process can be divided into two components: **technical interventions** and **interpersonal relations** between the health professionals and the clients” (1).

Measuring outcome in this study may not be easy, as it take a long time period which is beyond the scope of this study. However, participants' satisfactions could be measured as an outcome of the care that had been provided to these women.

This model has been applied in assessing the quality of maternity care services successfully in different countries such as; Nepal (11), Pakistan (12) and Botswana (13).

Methods and materials

Data collection

As this study was exploratory in nature, aiming to have a broader understanding of perceptions and values on intrapartum care, qualitative methods were also applied. Fifteen recently delivered women and fifteen maternity unit staff (nurses, midwives and doctors) were conveniently but purposively approached to be studied. Length of service of the health care personnel ranged from one to 25 years.

The age range of the postpartum women was between 19 and 43 years and the number of children these women had, also ranged from one to nine children. The age of the index children of these women ranged from two weeks to five months. The majority (60%) of the women had some formal education with the exception of only a few.

Postpartum women were interviewed by a female post-graduate in Public Health, who also had an experience in qualitative research. Women were recruited at the child well clinic in the Poly Clinic. This clinic is an annex of the main referral hospital where only outpatient services are offered.

A courtesy call was conducted to the health facility where the study took place prior to the start of the study. This was to meet the nurse "in charge" of the health facility and the nurses at the child well clinic to inform them of the purpose and objectives of the study. They were also informed that only women who delivered in the study site from July to December 2007 were eligible and this assisted in the recruitment of the study subjects. Permission was granted by the "in charge" and she also asked her staff to be supportive towards the study.

A quiet place within the facility was identified for the interview. Reasons for interviewing these women in a health facility were due to logistics and secondly, most of the streets in this area are without numbers, thus, making it difficult if not impossible to trace women in their homes for interviews.

A total of 15 postpartum women were interviewed and the interview period usually lasted between 45 to 60 minutes. The interviewer had the names and dates of delivery of all those women who participated in the non-participant observation to avoid including them in the qualitative study.

In The Gambia, women usually after one week of delivery, take their newly born babies to the child well clinic for registration and immunization. Subsequently, children are taken to this clinic monthly for immunization, weighing or both up to five years.

Thus, women who delivered within the study period and brought their children either for immunization or weighing were recruited in close consultation with the nurses at the child well clinic. Nurses at this clinic were asked to identify and send women of all ages, parity, educational level and occupation who fit the inclusion criteria to the interviewer, who in turn excluded those who participated in the quantitative study. Fifty-six and 8 women were excluded due to participating in the observation study and delivering outside the study site respectively. None of the women recruited into the study declined to participate.

In-depth individual interviews with each of the women were carried out at this child well clinic using an interview guide to assess women's views on the care they received during labour and delivery in the study labour ward.

An open-ended interview guide developed by the PI in close consultation with the supervisor was used and it has sections on: background characteristics of the woman. It also has sections on women's views on the general reception and expectation during admission, examination on admission and management during labour and delivery. In this section certain issues were probed for and they included; greetings; privacy; consent during examinations; feedback on examination findings; movement; labour position; communication between mother and health care personnel.

The aim of this probing was to have comprehensive views of these women on the care they received from admission to discharge. On average 2 women were interviewed a day because the interviewer was also engaged in her official duties.

The PI carried out the individual in-dept interviews with 15 health care providers within the same period as the non-participant observation but at different times and locations due to the busy schedules of the health care workers.

This interview was also facility-based. An appointment was made with all the doctors and administrative staff on the date, time and location of the interview. The doctors were interviewed at the doctor's flat. This is a room allocated for doctors on call within the maternity unit. The administrative staffs were interviewed in their own offices.

During the time of the non-participant observation, any nurse or midwife who was readily available couple with no observation of a labouring woman taking place was approached to be interviewed. Usually this was in a quiet place within the maternity unit.

During the process of interview with the health care providers certain important issues emerged and needed further investigation. These include: staff attrition; shortage of delivery instruments; lack of supervision; lack of sterile gloves and cleanliness of the labour ward. These one may argue are management issues and it was thought wise to interview some of the hospital managers to find out the possible contributing factors to these problems.

There was only one midwife who declined to be interviewed for personal reasons, even after explaining all the ethical issues, she thought participating in the study might affect her service. The Cubans in the maternity unit were also not available for interview for reasons beyond this study.

A different interview guide was used for the health care providers and they were asked about the management of labour, challenges in their working environment and the way forward for the application of best maternity care services.

All interviews were tape-recorded, transcribed in full from a local dialect to English language by the principal investigator. The transcribed materials were then categorised and systematized in order to identify commonly occurring themes and sub-themes.

Data Management and Analysis

The qualitative data was transcribed in full to capture postpartum women and health care workers' verbatim account of the care they received during labour and delivery, and challenges in adoption of evidence-based obstetric care respectively. Qualitative data analysis went simultaneously with data collection to enhance the emergence of the themes grounded in the empirical data (14). Summary notes were written and attached to each field note on daily basis. All data was transcribed verbatim, typed and stored safely. At the end of the data collection, the already commenced data analysis process continued. Data was categorized into themes and sub-themes and analysed manually. Content analyses according to emerging or frequent themes were used to analysis the qualitative data. This was thought relevant as qualitative data analysis highly depend on the skills of the researcher but not any software package.

Ethical Consideration

Approval to carry out the study was sought from the Ethical Review Committee of Norway, the Joint Gambia Government and Medical Research Council Ethical Committee and the Royal Victoria Teaching Hospital Ethical Committee before the start of the study. The Principal Investigator (PI) was responsible for obtaining the ethical clarence to proceed with the study.

Results

This study included fifteen postpartum women who delivered within the study period (July to December 2007), also the same number of health care workers participated in the study to find out the challenges they encounter in applying evidence-based obstetric care in their work setting.

Characteristics of postpartum women

The ages of fifteen women interviewed were between twenty and forty-three years. The parity of these women ranged from one to nine children.

The age of the index child was between two weeks and five months. Most of the women had some basic formal education with the exception of few.

Characteristics of health care providers

The health care personnel interviewed included; Hospital management (n=2), Obstetrics and Gynaecology consultant (n=1), Obstetrics and Gynaecology Residents (n=1), Clinical instructors (n=2) Trained midwives (n=5), Medical student (n=1) and Student midwives (n=3). The working period of the trained health care workers ranged from one year to twenty-five years.

Labour ward routines

Reception

Provider's views

The initial contact between health care personnel and women in labour is a key element in confident building and continuity of care. For some midwives, when a woman in labour comes she is firstly received by the health care workers and then asked to enter the examination room as explained by one midwife:

“For me when they come I received them and after receiving them I do an examination. I do general physical and vaginal examinations and if they are in labour I give them a bed in the labour ward. I make them comfortable, get their things that they need around them. And then I leave the patient to rest”.

This testimony illustrates how the midwife was trying to tell the researcher what she thought was appropriate to be done. However, this has also pointed to a very important issue relating to what her colleagues do. One may argue that this statement implies that most of her colleagues might not be receptive to women who come to the labour ward with labour pains. This has implications on future utilisation of such facilities.

Women's views

Women cherished positive reception from the health care providers a lot and associate this with good care. One woman gave a testimony how she was welcomed by a midwife:

“They gave me a good welcome, because the old lady [Midwife] who attended to me she had no problem, honest to God. She treated me as her own daughter”. (**Woman age 27, para 5**)

To some the reception from health care personnel was not pleasant. Health care workers expected to be greeted and not to be questioned about their work as narrated by one woman:

“When I came I greeted them [Nurses] they were chatting, they did not hear me. I told them, “I am talking to you”. They said you don’t even greet us, I said of course I greeted you but you were chatting. I said “who is here visiting [i.e. who is on duty], they said why am I saying who is here, is that they way to talk. I said I will definitely ask who is responsible for checking people”. (Woman age 43, para 9)

The expectations of the women highlighted a range of issues including positive staff attitude, information sharing, politeness, and exercising patience. An excerpt from woman stated:

“I went to the ward with one of my sisters.....I told her [nurse or midwife] that my stomach is paining me..... She said “sit and wait”I repeated that it [stomach] is paining me badly.....She said, I told you to sit down and wait.....She never got up to see me..” (Woman age 38, para 3)

Recording

Provider’s views

Clear, correct and complete recording is very important in patient care because it serves as a reference for continuity of the care and for auditing. However, this is often incomplete in our maternity settings. One midwife testified during an in-depth interview that shortage of staff also contributed to the under reporting of vital information in the labour ward as she explained:

“Sometimes we [midwives] work alone and when the labour ward is so busy you have to do all the deliveries and recordings.....Sometimes you do delivery without recording anything...They [hospital administration] are aware of this problem but when you complain to them they will tell you what can we do.....Because of the attrition rate everybody is leaving.....So?”

Partograph use and completeness

Provider's views

The use and completeness of the partograph, an important tool for monitoring the progress of labour, was noted to be inadequate even among care providers including nurses and midwives. A quotation from the testimonies of the midwives:

“One very important tool used in the labour ward is the partograph, but most of the care givers [nurses and midwives] don’t use it correctly.....Most of them don’t monitor contractions, blood pressure and even if measured they don’t enter it on the partograph.....Most of the midwives don’t even know how to plot the partograph correctly.”

Aseptic techniques

Provider's views

While it is important to make equipment and supplies available, it is equally important for health care personnel to adopt critical measures of infection prevention. Adherence to aseptic techniques was said to be non-impressive in the maternity unit. One student midwife outlined:

“It is very dirty here.....we saw a midwife when she was suturing, she put the scissors on the bed [delivery bed] and used the contaminated scissors again to cut the thread. This can cause infection. We also saw a child who needed oxygen. The oxygen tube was on the floor she [Nurse] just picked it and put it into the child’s nose.”

Use of gloves

Provider's views

Use of ordinary examination gloves from a box instead of unwrapped sterile gloves for vaginal examinations was not uncommon in the hospital, and often hands in these gloves touch different items around the delivery bed. This mal-practice is known to the senior administrative staff. A senior management staff asserted:

“.....It is true that there is use of disposable gloves for vaginal examination.....We [hospital] have enough sterile gloves and they should use them for vaginal examination.....Nurses and even Doctors used disposable gloves for vaginal

examination which is not correct.....That is why sepsis [maternal and fetal] is very common in the maternity wards.”

Delivery beds

Provider’s views

As eluded above by a senior hospital administrator, puerperal sepsis may be common among women who gave birth in this hospital. Some health care workers believed that the conditions in the labour ward are responsible. One doctor explained:

“.....Important area and major problem to the mothers, their new born babies and even to the staff themselves.....in the postnatal ward we are seeing a lot of postpartum sepsis cases. I believe most of them have their source from the labour ward.....After delivery the orderlies just wipe them [beds]. Those beds need to be thoroughly cleaned and fumigated periodically.....Blood is a very good culture for bacteria to multiply.....that is an area that needs to be looked into.”

Cleanliness

Provider’s views

Lack of or inadequate availability of cleansing materials is being associated with the deplorable condition of the labour ward. Cleanliness is a key requirement in labour and delivery management. One midwife explained how they struggle to ensure cleanliness of the labour ward:

“.....I saw maggots come out of the broken tiles and when you step on the tiles you will see dark blood coming out.....When we asked them [referring to administration] to give us Lysol [cleansing agent] they will only give us one gallon for the entire maternity unit.....the labour ward alone can use one gallon in a week because of the amount of blood that pour on the beds and the floor.....It is proper after every delivery to clean with bleach or Lysol so that the delivery beds and the floor are cleaned before the next woman is put to the bed...The orderlies are using the same piece of cloth to wipe the stained delivery beds and the floor most of the time with plain water.”

Practices

Labour augmentation with oxytocin

Provider's views

Augmenting labour with oxytocic drugs is a common practice in this hospital. To obtain a broader knowledge on why this is was explored. The indiscriminate use of this risky intervention seems to be associated with the non-existence of guidelines and protocols on this subject. One midwife explained:

“Labour augmentation should normally be ordered by the Doctor but in this hospital anybody can augment [meaning ordering is done by anybody]....Everybody does your own thing the way you like.”

There are concerns on the rate of labour augmentation among care providers. In response to this situation some of the staff fail to comply with doctors' orders but resort to doing their own care plan. As one midwife cleverly explained:

“....doctors they like giving pitocin too much.....If you advice them that the woman is high parity or had previous caesarean section (C/S), they [Doctor] just give 2.5 units pitocin.....Augmenting this previous C\S women is very dangerous, you end up losing that mother and the baby.....Anyway you just tell them yes but you do something else.”

Documentation of care provided to women is an important element of the care process. It is a means of communication between staff and act as a permanent record of the woman which could be influential in subsequent care. Poor documentation of procedures and treatment given was consistently mentioned by midwives.

“Women are given oxytocin sometimes it is indicated in the patient's notes [records] and sometimes it is not It is dangerousThe drug can be unknowingly repeated again and again.”

Lack of commitment on the side of most health care workers, the caseload and staff attitude were strong predictors of some midwives not adhering to standards during labour and delivery.

To some this is not a genuine reason to warrant for certain things which are happening in the labour ward. When asked about the reasons why most midwives don't document the care given to women in labour, a midwife explained:

"Here whatever you tell them [midwives or nurses] they say is the workload but from my own point of view lack of commitment could be the main reason.....The nurses are just being lazy as I will judge it".

Women's views

Most of the women interviewed reported having had an injection (pitocin) added in an IV drip fixed for them during labour. Some expressed that this was an unpleasant intervention because it increases their labour pains. Others felt that this procedure had actually helped to accelerate their delivery process and reduced the hours of stay in the labour ward. One woman narrated her case:

"For labour, there is nothing that I like, unless the injection [pitocin] that they add into the water [IVF] they fixed for me. That (pitocin) really help me.....When the nurse put the pitocin the pain increased but it didn't take long before I delivered. I was happy to deliver and go home early". (Woman age 26yrs, para 2)

Episiotomy

Provider's views

Frequent use of what can be regarded as "routine episiotomy" featured frequently. Sometimes this act is grounded on the fear of a more severe complication occurring. A midwife narrated:

"Episiotomies are frequently done here.....especially for primips [first time deliveries].....The nurse will use her own opinion.....Like you saw the last patient [delivery witnessed] the opening [implying birth canal] was so tight.....If I leave that head [head of baby] to come out there would be second or third degree tear so I have to do episiotomy."

The frequency of episiotomies was not the only concern raised but performing it without local anaesthesia too. One midwife stated:

".....I cut [perform episiotomy] without giving lignocaine [local anaesthesia] during contractions...Books [literature] says that the pain during contraction is more intense than the cutting....We only give lignocaine before suturing [repairing the cut]."

This testimony is an assumption that is not supported by evidence. This act of inflicting more pain on labouring women could have been prevented, if health care workers were abreast with the recent evidence on how to perform episiotomy (15).

Women's views

Women view the communication between them and health care workers to be very poor and expressed that they were threaten with poor foetal outcome by the midwives if they did not comply with instructions. To explain her point a woman cited an incident she experienced:

“She did not even tell me that she was going to cut me [referring to episiotomy]. When I feel the pain of the cut I put my hand there in reaction.....She told me to remove my hand or else she will leave me unattended and I will loose my baby because the baby cannot come out. It was painful but I don't want to loose my baby I just bear the pain.”

(Woman age 20, para 1)

Social support and labour companionship during labour and delivery

Provider's views

Midwives acknowledged that companionship with a relative is helpful to women during labour and delivery. This is, however, not a practice in this hospital's maternity unit. Midwives highlighted practical challenges to that instituting such.

“The place [referring labour ward] has less space. At least they [hospital management] should renovate the labour ward in such a way that it can allow privacy because it [labour companionship] helps....You know the midwife cannot be with the woman all the time....because of staff shortage.”

Women's views

Companionship offered by a friend or relative can be beneficial as it provides comfort, support and can be a means of communicating instructions from the limited number of health care workers. One woman explained:

“When I was in labour, the nurses used to leave me alone and go and chart around the table. Sometimes I have to scream for them to come and see what is happening. Some (nurses) if you tell them to do things for you they will tell you to do it for yourself. But if you have someone you know with you that one will always help you”. (Woman age 26yrs, para 5)

Intravenous Fluids

Provider's views

Intravenous infusion during labour is believed to give more energy to the woman and can be a substitute to food and oral fluids. Infusions are performed for various reasons as explained by midwives and doctors. It is not necessary if and when the woman drinks enough herself.

"We [midwives] give IVF if they come bleeding [women in labour] before Doctor comes.....If the Doctor comes anything he or she orders is what we give....Sometimes by looking at the women and they are weak you can give 5% dextrose.....If they come with foetal distress we sometimes give 5% and we add 50% glucose to the infusion bottle before Doctor comes...We also give the oxytocin augmentation through IV [intravenous infusion] with Normal Saline or 5% Glucose."

Oral fluids and food

Provider's views

Restricting oral fluids and food intake during labour and delivery is practiced in this hospital but with reasons. A midwife narrated:

"The common practice in this labour ward is that when they [women] are in the first stage of labour we encourage them to take fluid...when they are getting into the second stage we discourage them taking fluids because they tend to vomit.....that is why we don't give them fluid or food when they are getting into the second stage of labour."

Women's views

In describing their childbirth experience, some of the women interviewed and had appalling encounter with the health care providers expressed indignation.

"I was so tired and thirsty, I wanted water to drink.....The nurse was very angry with me when I asked her to give me some water to drink.....She told me to go to the tap and drink if I want, even though I was in pain.....When she saw my mother giving me water, she was so nasty to her and sent her out from the labour".

Mobility and maternal position during labour and delivery

Provider's views

Confinement of women to bed during labour and delivery was acknowledged as a common and normal practice. It was equally acknowledged that mobility during labour is also with benefits. A midwife explained:

“.....Once in a while I tell them to walk around the delivery bed.....If you walk around the bed it will help in the descend of the baby and makes the labour quick. But I don't think I have seen it being done frequently by other nurses here [labour ward].

Positioning of the labouring woman is an important element in patient management. While in some countries there is a policy that the women choose whichever position suits them in this hospital it is the care providers that dictates where all women are asked to lie in the lithotomy position. A midwife narrated:

“Anyway, the position that the woman prefers should be adhered to.....but here we [midwives] tell them [woman in labour] to lie in lithotomy position [legs up the bed poles].....Secondly I have not seen woman in labour who had ever requested for any position they want”

This testimony clearly illustrates the lack of autonomy of women in care that directly affects them. If WHO advocacy for increased institutional delivery by a skilled birth attendant is to be realised, it is important that health care personnel also begin to acknowledge women's autonomy in their own care.

Women's views

The views expressed by the women about the attitude of health care workers towards mobility during labour were generally negative. Some women noted some of the benefits associated with ambulation in labour such as pain relief. During in-depth interviews some explained in the following quotes:

“You know when you are in labour the nurses do not allow you to come from the bed. Some will shout at you when they see you walking in the labour ward.” (Woman age 19, para 1)

“.....The bed [delivery bed] they [midwives] gave me I sometimes leave it and come and sit around where the nurses are seated.....She [midwife] said is it that it is not paining you?.....I said is just small.....The pain is less when I am moving around”
(Woman age 22, para 3)

Challenges

Quality of care

Provider’s views

Quality is subjective, but from a medical perspective, it can be measured against some defined, evidence-based standards of approved quality of care. Quality of care should address both the content and the process of the care being provided. During an in-depth interview one senior midwife gave a testimony of her experience of the quality of care in the labour ward and she explained:

“The quality of care in the labour ward is going down...In the past when a woman comes in labour she is taken to the bathroom and would have a bath before given a delivery bed which has a clean drape sheet.....The woman is also swabbed. Sterile gloves are used for the vaginal examination and not disposal gloves.....Now women are asked to lie on a bed which is not well cleaned.....Nurses and even Doctors used disposal gloves for vaginal examination which is not correct.....That is why sepsis is very common in the maternity wards especially the acute postnatal ward.”

Perceived quality of care

Women’s views

Regardless of what was anticipated the women appreciated the care received. One woman commented:

“.....many women told me that if you go to the labour ward, the nurses will not care for you....For me, I have never come across any nurse who was not caring”. (Woman age 34, para 4)

“Patient satisfaction with maternity services, which is an element of quality of care, has been argued as a subjective and dynamic perception of the extent to which expected maternity care is received” (16). However, this study has shown areas in hospital-based intrapartum care that needs great attention according to testimonies of women. Poor outcome of pregnancy such as maternal deaths or stillbirths can be associated with the care provided by the health care workers. One woman narrated her experience:

“You know some of the mothers who die and lose their babies are as a result of the actions of the nurses....There was one woman who was lying there [labour bed] shouting for help for long time, unfortunately the woman died.....I told one of the nurses this is your fault, this woman was shouting since when, you people were sitting down there chatting.....The Gambian nurse said you don’t think of yourself but thinking about somebody.” (Woman age 22yrs, para 2)

This testimony illustrates the unprofessional attitudes of some of the health care workers and may be one of the many answers to the high levels of maternal mortality in this hospital. This is a major concern that needs to be looked at as urgency.

Maternity care protocols and guidelines

Provider’s views

Protocols and guidelines are essential tools in ensuring provision of consistent care. They are important in auditing quality of care as well. Without them quality improvement is difficult if not impossible. Doctors and Midwives both agreed that the availability of protocols and guidelines in the maternity unit reflects standards and critical pregnancy outcomes. No protocols or guidelines exist in this hospital for the management of labour and delivery. Thus, most of the staff in the unit relies on their experience. Absence of guidelines can encourage the incorrect use of interventions with disastrous maternal and/or fetal outcomes. As one midwife puts it:

“It is very dangerous to work without guidelines.....some of the practices that we midwives do will harm the patient...I will give you one example [she lowered her voice] there is a midwife here who even if a woman in labour is not fully dilated she would manipulate and manipulate to stretch the cervix until that woman deliver.....The cervix may tear and then problem will arise.”

In the absence of protocols and guidelines, doctors also prescribe differently for the same condition. A midwife narrated:

“Everybody [doctors, nurses and midwives] do things in your own way.....For example, in the management of eclampsia, this magnesium sulphate that we used,.....some doctors will tell you to give it in normal saline and others in 5% Dextrose.....Some [Doctors] will tell you to give 4 grams of magnesium sulphate and others 6grams..... So we [nurses and midwives] are confused.”

Supervision

Provider’s views

Access and content of supervision is a key strategy towards improving quality of care, and can be viewed differently by health care providers. At times it could be attributed to identifying problems. A senior hospital manager explained:

“I would say weekly because the in charge of the maternity unit is always in contact with my office for any problem arising from that end or for any assistance....”

To others supervision was seen as irregular, if it existed at all. Supervisors come to the maternity unit only to signal that they have a special patient or a visitor to the unit. A senior midwife puts bluntly:

“They [supervisors] come around only when they have visitors.....that is the time they will come and tell us to make things [ward setting] look nice.... they are hiding the truth.....The bed sheets that they have kept, they will pull out to make the beds neat as if that is done on daily basis.....Is that not hypocrisy and deception?”

Supervision which should be seen as a form of in-service training and motivation for health care workers instead is carried out to intimidate the already demotivated skeletal health personnel. This may be one of the answers to the high attrition this hospital is faced with.

Delivery trays

Provider’s views

The number of deliveries does not commensurate with the available delivery trays. Thus, the felt need for more trays to be readily available is imperative.

Missing items in the tray was also lamented upon. In addition, poor staff attitudes on the handling of equipment came out clearly during in-depth interviews. Inadequate trays force those attending to deliveries resort to other coping strategies.

“Here we lack delivery instruments especially forceps and episiotomy scissors....Every shift [morning, afternoon and night] is given 10 trays each.....When we take our instruments to the Central Sterilizations Department I don't know what they do with them.....You will open a tray and will not even find a scissors to cut the cord of the baby.....When the trays are finished [used up], because I have the keys to cupboards of the other shifts, I take trays of the other shift.” [Midwife]

It is important in this situation to put in place a mechanism of accountability to ensure that such instruments can be track down to prevent or minimise pilferage.

The inadequacy of instruments was taken to the administrative staff of the hospital, and blamed on the management's lack of awareness of the situation. One senior administrative officer puts it:

“Well shortage of delivery trays has not been reported to me because we do get briefing from the in charges.....but as you have informed me now we will do an enquiry and see how to increase the number of delivery kits there.”

Staffing situation

Provider's views

The staffing pattern was generally acknowledged to be far from ideal and this was attributed to the declining standards in the hospital. A narration of a doctor:

“As the Hospital starts to deteriorate the trained staff also started leaving.....Now experienced Auxiliaries are used to fill up the gap createdIf you say the Auxiliary Nurses not to be doing such procedures [episiotomy and augmentation] who will when there are no trained nurses or midwives.....

It is pathetic for you to come sometimes and see such a critical ward [labour ward] being man only by Nurse Attendant. Some of them have not even completed their secondary school education.”

Using Auxiliary Nurses as substitute for the trained health care workers to carry out key procedures such as episiotomy and labour augmentation is least expected in a teaching hospital which sets high standard of care. This will further worsen the already deteriorating situation of the hospital.

Staff attitude

Provider's views

Staff attitudes towards women, a sensitive and contentious issue, were also mentioned. As one midwife puts it:

“I think health care workers are very hard on the patients...they should be more caring....few days ago we asked three midwives “what makes a midwife to be a good midwife”. All of them said that it is important to show empathy and attend to the woman's needs and so on....They answer it but we can't see that in them.....[she laughs].”

One midwife also narrated her own experience of how other midwives reacted to women walking around whilst in labour:

“All you hear the nurses say is lie on the bed.....don't come down.....shut your mouth.....you should not be shouting.....who do you think should be doing all these for you.....keep quiet and get back to the bed.”.

Women's views

Women contemplate whether to give birth in a health institution because of the perceived poor reception by health care workers. Rumours or gossips on health care workers' attitude also influence the decision-making process.

“During my last pregnancy, when I was going to the labour ward, I was told by my friends that I may be lucky to meet good nurses.....I was so lucky because all those I found there [both afternoon and morning shift] were so friendly and have patience.”

(Woman age 22, para 3)

The behaviour and attitude of some midwives towards the women in labour were also mentioned as an unsatisfactory experience during labour and delivery.

Women who had unpleasant experience with the health care workers expressed their anger, as testified in the following quotes:

“If you go to the labour ward, they [nurses] only show rudeness on people...They will do bad things to you but you cannot say anything because you are in pain....”

(Woman age 25, para 2)

Communication

Provider’s views

Not providing information to women about their welfare was a concern raised by staff of the unit. Women are also said to be not involved in their own care with any feedback on the progress of labour. A student midwife asserted her views:

“I am not sure how much the women in labour are informed of what is going on.....e.g. why the examination is being done.....how soon she might deliver.....why she is being admitted.....This sort of information is never given to the women....No explanation of what the women to do when they feel something....They [nurses, midwives and doctors] don’t tell the woman what to expect.”

Women in labour are in pain, sometimes they are afraid or even in panic, and they may be stressed. To relief and reduce anxiety, information and reassurance is key. This may be more relevant to those inexperienced young women giving birth for the first time in an unfamiliar setting.

Privacy in the labour ward

Women’s views

Women raised their concern on the lack of privacy in the labour ward. One woman lamented:

“There is not much privacy.....It should have been better than that...You know the delivery places [cubicles] are having curtains but they [nurses and midwives] leave them wide open.....people passing will see you lying naked.” **(Woman age 43, para 9)**

DISCUSSION

One major finding of this study is that most health care providers lack knowledge about the most recent intrapartum evidence-based care recommendations.

This is a major challenge for the health care personnel to adhere to recommended practices. Harmful and sometimes uncomfortable practices were claimed to be frequently applied by health care providers, even though studies and systematic reviews do not suggest any evidence of their benefits (17). These include lithotomy position during delivery, indiscriminate labour augmentation and routine episiotomy for primiparous women. Practices which are clearly supported with evidence to be of benefits were mentioned to be infrequent by health care providers. For example, support during labour and delivery, mobility in the first stage of labour, good interpersonal relationship and skin-to-skin contact with mothers (17).

“Patient satisfaction with maternity services which, is an element of quality of care has been argued as a subjective and dynamic perception of the extent to which expected maternity care is received” (16). However, this study has shown areas in hospital-based intrapartum care that needs great attention according to testimonies of women. These include inadequate privacy, poor staff attitude and interpersonal relationship between health care workers and labouring women to provide optimum care during labour and delivery.

Limitation of the study

All postpartum women were interviewed at a health facility, and the tendency of being reluctant to criticize health care providers could be high; women may fear expressing negative experiences about the care they received to affect their future care.

The study has raised concerns about health care workers to be interviewed by a health worker. Thus, this part of the qualitative results should be interpreted with caution as they may be misleading if health care workers report what they think should be done rather than what they actually do.

Furthermore, the study was confined to only one hospital in the urban area where facility deliveries with trained health personnel are more common. Thus, the findings of the study have implications primarily for care related to deliveries that occur in health facilities, attended by health care providers.

Most health care providers claimed that their practices are mainly influenced by their working conditions. These include, lack of standard guidelines for normal labour and delivery, staff shortage and inadequate instruments. These concerns are also in agreement with findings of other studies (4, 5, 18-22).

For example, most health care providers claimed that routine labour augmentation was carried out as a coping strategy for the overwhelming number of labouring women reporting and this situation had actually compelled the limited number of staff on shift to expedite the delivery process.

There was one specific incidence reflecting this situation, one midwife with number of years in service augmented a primipgravid woman who came in with 5 centimetres cervical dilatation and good uterine contractions. When she was asked the reason for the augmentation she said *“this lazy primips who have no experience if you don’t put up pitocin, in a minute the ward would be full. I always give 2 bottles (each containing 5grams of magnesium sulphate in 10mls) of magnesium sulphate and 10 international units of pitocin through intravenous infusion of 5% dextrose, 5 millilitres (mls) of magnesium sulphate (2.5g) and 5mls of 50% glucose given through intravenous as stat doses”*. This she called the “Cocktail for augmentation”. This means that these women who are given this cocktail received 12.5g of magnesium sulphate in total.

The indiscriminate use of magnesium sulphate in labour augmentation in this study can be hazardous to both women and babies in a situation where health care workers don’t monitor maternal and foetal conditions regularly. Labour augmentation with oxytocin should only be in situations with strong indication (17).

Inappropriate use of oxytocin in labour augmentation may have negative impact for both the woman and unborn baby. Uterine hyper-contractions may cause ruptured uterus leading to severe bleeding resulting in either maternal or foetal death or both (23). Neonatal seizures has been reported to be associated with augmentation with oxytocin” (17).

In-depth interviews with health care workers revealed that lack of current information on evidence-based maternity care could also be responsible for the frequent practices such as, routine episiotomy, intravenous infusions, poor aseptic techniques, and restricting of oral fluid and food during labour.

The frequent use of unsterile instruments in conducting deliveries can lead to the spread of the nosocomial infections, as the flora in hospital may be of multi-resistant strains.

Companionship during labour has been mentioned by both postpartum women and health care providers, as an important element in the care of the woman in labour. However, this practice was mentioned by both postpartum women and health personnel to be insufficient in this study hospital to meet labouring women's needs. The health care workers claimed that this practice cannot be carried out in this setting due to staff shortage and inadequate space. Similar findings were also revealed in other studies (5, 20, 22).

This practice which has been shown to be beneficial (17) was not encouraged by the health care workers. Factors that could be responsible for the failure to apply this practice may include staff shortage and attitude, and available space in the labour ward. However, studies have shown that "women who have received continuous care compared to those with usual care during labour are less likely to have a caesarean section and report dissatisfaction with their childbirth experience" (24). In most developed countries, maternity wards have for long time almost as a routine admitted the women's spouse or friend or mother into the delivery room even into the operating theatre.

Findings from systematic reviews (25, 26) have shown some benefits of early mobility in the first stage of labour and upright position during delivery. This study revealed that most midwives are not aware of women's preference in terms of delivery positions. This could be associated with poor interpersonal relationship between the health care workers and these women and lack of appreciation of women's autonomy in their own care. Other factors that may be responsible for this include the associated discomfort with other delivery position, lack of current evidence-based information on delivery position and staff attitude. Other studies (5, 20, 27) have documented similar findings as shown in this study.

Some women also expressed some of the benefits associated with ambulation during labour. Women had no choice in position during labour and delivery.

They were restricted to a position that may differ with their preference. This may explain why the majority (70%) of Gambian women opt for home than health facility deliveries (28).

Delivering at home offer social support often with familiar faces and is also devoid of frequent vaginal examinations and restriction of delivery position. Everything in such deliveries is performed in a calm and caring fashion.

The intrapersonal relationship between health care providers and women in labour was expressed as poor by both health care workers and women who delivered in the study labour ward. Failure to inform women of procedures and to involve them in their own care was mentioned as a major issue in the study. Staff attitude and the caseload may be key factors contributing to this poor relationship. A similar situation was also documented in a study in Turkey (5). Literature has also shown that interpersonal behaviour of health care workers to be a key element in determining women's satisfaction towards cares they received (16). Health care personnel's attitudes towards women in labour are care critical elements of care as is a successful labour outcome. This may have some implications on women's acceptability and future uptake of maternity care services.

Mensch (1993) identified four criteria for measuring quality of care which include: information sharing, provider's competence, interpersonal relations, and mechanism to enhance continuity of care (29): During in-depth interviews, women's testimonies indicated deficiencies in at least two of these criteria. The implication for this on the health care system would be decreased in institutional deliveries, which is being advocated in the MDGs. To achieve this objective, women should have the opportunity to ask questions and receive clear answers, have their decision-making rights respected.

In-depth interviews with health care providers revealed that most midwives were not knowledgeable about the use of the partograph. Although, midwives claimed the initiation of the partograph on all labouring women, only findings of vaginal examinations such as cervical dilatation are recorded on it regularly. The foetal heart, blood pressure, temperature and pulse are mostly monitored on admission. Uterine contractions are never monitored for women in labour.

A study carried out in Nigeria revealed that 216 (54%) of the 396 participants were aware of the partograph in health institutions but only 18% of them use the partograph routinely (30).

The same study also revealed that among those who routinely used the partograph about 49% do not know how to use it correctly.

The World Health Organisation has designed and advocated for the use of the partograph with the sole aim to improve the management of labour and to reduce the incidence of women dying from obstructed labour (17). Obstructed labour remains one of the contributing factors to maternal deaths in developing countries (31), and any attempt to reduce this incidence should also centre on the correct use of the partograph. Failure to abide by this objective is a concern in this study and all efforts should be made to ensure that health care workers really utilise this important monitoring tool effectively and efficiently.

Conclusion

Health care providers' failure to adopt evidence-based intrapartum care practices as found in this study may be partly due to the working conditions. One may conclude that the problems identified in this study may not be unique to the study site but a national problem. These components of care identified in this study, also have some implications on women's health and perceived quality of care they received. Some of the senior management were aware of the challenges that maternity staff undergoes, but are powerless to effect changes within the current system. However, it is assumed that findings of the study will help put in place strategies and interventions to improve maternity services based on empirical evidence.

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APPENDICES

Appendix 1: Intrapartum practices checklist

Case Number () Date of admission.....Time of admission.....

Time of delivery.....Initial of observer.....

SECTION A: DEMOGRAPHIC CHARACTERISTICS

No.	Questions and filters	Coding category
Q101	Age of woman	Complete in years.....
Q102	Gestational age of the woman, indicate in weeks	/ wks/
Q103	Marital status	Single 1 Married 2 Divorced 3 Widowed 4 Others 5
Q104	Gravidity: 1. Number of babies born alive? 2. Number of babies born death? 3. Number of abortions?	Write in box 1) / / 2) / / 3) / /
Q105	Parity: 1+2	Write in box / /
Q106	What is the highest level of education you attained?	None 1 Primary 3 High/Secondary 4 College 5 University 6
Q107	What is your occupation?	Farmer 1 House wife 2 Civil servant 3 Petty trader 4 Student 5 Others 6

SECTION B : HOSPITAL ADMISSION PROCEDURES		
MEASURING WOMAN'S VITAL SIGNS		
Q101	Measurement of Blood pressure? If yes write in box	/ /Yes 1 No 2
Q102	Measurement of temperature? If yes write in box	/ /Yes 1 No 2
Q103	Measurement of pulse? If yes write in box	/ /Yes 1 No 2
DECIDING THE STAGE OF LABOUR		
Q104	Antenatal care available?	Yes 1 No 2
Q105	If yes, antenatal care reviewed?	Yes 1 No 2
Q106	Vaginal examination (VE) performed?	Yes 1 No 2
Q107	Cervical dilatation (write in cm in the box)	/ cm/
Q108	Woman asked if want to pass urine before vaginal examination?	Yes 1 No 2
Q109	Who performed the vaginal examination?	Doctor 1 Midwife 2 Nurse 3 Student 4 Auxiliary Nurse 5 Orderly 6
Q110	Woman informed about the vaginal examination to be performed?	Yes 1 No 2
Q111	Health care provider washed hands with soap before VE?	Yes 1 No 2
Q112	Health care provider washed hands with soap after VE?	Yes 1 No 2
Q113	Vulva and perineal area washed or cleaned with swab before VE?	Yes 1 No 2
Q114	Gloves used in vaginal examination?	Yes 1 No 2
Q115	What type of gloves used in vaginal examination?	Surgical gloves 1 Examination gloves 2
Q116	Gloves discarded after used?	Yes 1 No 2
Q117	Gloves used in an other woman	Yes 1 No 2
Q118	Gloves kept for sterilization	Yes 1 Yes 2
Q119	Woman informed about the results of the examination?	Yes 1

		No 2
Q120	Woman catheterized during vaginal examination?	Yes 1 No 2
Q121	Woman catheterized after vaginal examination?	Yes 1 No 2
Q122	Is sterile catheter used for catheterization?	Yes 1 No 2
Q123	Intravenous infusion set-up?	Yes 1 No 2
Q124	What type of IV fluid/drugs?	50% glucose 1 5% glucose 2 Normal saline 3 Magnesium Sulph. 4

DELIVERY CARE OBSERVATION CHECKLIST

SECTION C: MANAGEMENT OF FIRST STAGE OF LABOUR		
No.	Questions and filters	Coding category
Q101	Partograph available	Yes 1 No 2
Q102	Partograph used?	Yes 1 No 2
Q103	Foetal heart monitored?	Yes 1 No 2
Q104	If the foetal heart checked on admission is the number indicated?	Yes 1 No 2
Q105	If the foetal heart beats indicated, write the number in the box?	/ bpm/
Q106	How frequent is the foetal hearth monitored?	On admission only 1 Every 15 minutes 2 Every 30 minutes 3 Four hourly 4
Q107	How frequent is vaginal examination performed?	On admission only 1 Every 30 minutes 1 Every one hour 2 Every four hours 4
Q108	How many people performed the vaginal examination?	One person 1 Two people 2 Three people 3 Four people 4 More than four 5
Q109	Membranes ruptured by health care provider? If yes indicate time.	/ /Yes 1 No 2
Q110	Oral fluid offered by the health care provider?	Yes 1 No 2
Q111	Oral fluid offered to woman on requested?	Yes 1

		No 2
Q112	Woman encouraged moving about by the health care provider?	Yes 1 No 2
Q113	Oxytocin augmentation performed?	Yes 1 No 2
Q114	Who ordered the augmentation?	Doctor 1 Midwife 2 Nurse 3 Student 4
Q115	Oxytocin given through the intravenous infusion?	Yes 1 No 2
Q116	Units of Oxytocin given through infusion bottle indicated?	Yes 1 No 2
Q117	If augmentation done, is the foetal condition monitored per guidelines?	Yes 1 No 2
Q118	If augmentation done, are contractions monitored per guidelines?	Yes 1 No 2

SECTION D: MANAGEMENT OF SECOND STAGE OF LABOUR		
No.	Questions and filters	Coding category
Q101	Delivery set assembled before delivery starts?	Yes 1 No 2
Q102	Delivery set sterile?	Yes 1 No 2
Q103	Delivery set complete?	Yes 1 No 2
Q104	Mother informed of the stage of the labour?	Yes 1 No 2
Q105	Who performed the delivery?	Doctor 1 Midwife 2 Nurse 3 Student 4 Auxiliary Nurse 5 Orderly 6
Q106	Position during delivery?	Lithotomy 1 Sitting 2 Standing 3
Q107	Health care provider asked woman about position she prefers for delivery?	Yes 1 No 2
Q108	Fundal pressure applied?	Yes 1 No 2
Q109	Bladder catheterization before delivery?	Yes 1 No 2
Q110	Bladder catheterization after delivery?	Yes 1 No 2
Q111	Episiotomy done?	Yes 1 No 2

Q112	Instrument used for the episiotomy?	Surgical blade 1 Scissors 2
Q113	Perineal tear occurred?	Yes 1 No 2
Q114	Episiotomy done under local anaesthesia?	Yes 1 No 2
Q115	Episiotomy/tear repaired under local anaesthesia?	Yes 1 No 2

SECTION E: MANAGEMENT OF THIRD STAGE OF LABOUR		
No.	Questions and filters	Coding category
Q101	Prophylactic use of Oxytocics?	Yes 1 No 2
Q102	Route used?	IV 1 IM 2
Q103	Prophylactic use of ergometrine?	Yes 1 No 2
Q104	Route used?	IV 1 IM 2 Oral 3
Q105	If prophylactic given, when was it? Delivery of the placenta.	Before 1 After 2
Q106	Controlled Cord Traction?	Yes 1 No 2
Q107	Manual exploration of the uterus after delivery	Yes 1 No 2
Q108	Inspection of the placenta?	Yes 1 No 2
Q109	Estimation of blood loss? If yes indicate in the box./ mls/	Yes 1 No 2
Q110	Woman inform about the sex of the baby?	Yes 1 No 2
Q111	Uterus examined for contraction?	Yes 1 No 2
Q112	Bladder examined?	Yes 1 No 2
Q113	Blood pressure measured after delivery? If yes indicate in the box.	/ /Yes 1 No 2
Q114	Pulse measured after delivery? If yes indicate in the box.	/ /Yes 1 No 2
Q115	Temperature measured after delivery? If yes indicate in the box.	/ /Yes 1 No 2
Q116	Time spent in the labour ward for observation	Less than 1hr. 1 More than 1hr. 2 Less than 2hrs. 3

		More than 3hrs 4
		More than 6hrs 5

SECTION F: IMMEDIATE CARE OF THE NEWBORN		
No.	Questions and filters	Coding category
Q101	Baby cord tied with?	Sterile clamp 1 Unsterile clamp 2 Sterile tread 3 Unsterile tread 4
Q102	Baby dried with warm towels or cloths?	Yes 1\No 2
Q103	Baby wrapped in dry cloths or towels?	Yes 1 No 2
Q104	Baby dried and wrapped with dried cloth	Yes 1 No 2
Q105	Baby placed on the mother's abdomen or in her arms?	Yes 1 No 2
Q106	Apgar score checked at one minute? If yes indicate in the box.	/ /Yes 1 No 2
Q107	Apgar score checked at five minutes? If yes indicate in the box.	/ /Yes 1 No 2
	Resuscitation of the newborn performed?	Yes 1 No 2
	If resuscitation performed by who?	Doctor 1 Midwife 2 Student 3 Auxiliary Nurse 4
	What instrument was used?	Face mask\oxygen 1 Bag and mask vent 2 Sucton 3
	If suction, was the tube sterile?	Yes 1 No 2
Q108	Antibiotic eye ointment applied?	Yes 1 No 2
Q109	Weight of baby measured?	Yes 1 No 2
Q110	If the weight of baby measured, write it in the box?	/ kg/
Q111	Is the baby examined for any abnormality?	Yes 1 No 2
Q112	Who bath the baby?	Midwife 1 Nurse 2 Student 3 Auxiliary Nurse 4 Orderly 5 Relatives 6
Q113	When was the baby bath?	Soon after birth 1 After 30 mins. 2 After 1hours. 3 After 2hours 4 After 6 hours 5

		After 8 hours 6
Q114	What was the baby bath with?	Soft sponge 1 Perineal pad 2 Piece of cloth 3

Appendix 2: Mothers interview guide

Age of woman..... Parity.....Educational Level..... Place of Delivery Index Baby.....

Age of baby.....

No.	Questions
General reception and expectation during admission	
Q101	You have recently delivered in this labour ward, can you tell me how you were received when you immediately arrived?
(Probe for: greetings; woman asked reasons for coming; offered a place to sit; put on the examination bed; left standing or sitting on the floor)	
Q102	You have recently delivered in this labour ward, can you tell me what you were expecting from the health workers when you arrived? Explain why these are important.
(Probe for: greetings; woman asked reasons for coming; offered a place to sit; put on the examination bed; left standing or sitting on the floor)	
Examination on admission	
Q103	Can you explain what happened when the health workers were examining you when you arrived in the labour ward?
(Probe for: privacy; consent; vital signs checked; foetal heart; feedback on examination findings)	
Management during labour and delivery	
Q104	Can you explain the things that you like delivering in this labour ward?
(Probe for: food and fluids; movement; labour position; privacy; frequency of vaginal examination; communication between mother and health care personnel)	
Q105	Can you explain the things that you dislike delivering in this labour ward?
(Probe: labour position; privacy; frequency of vaginal examination; communication between mother and health care personnel)	

Appendix 3: Health care personnel interview guide

No.	Questions
Q101	How do you manage women in labour who come to this labour ward? (Probe for: availability of guidelines and their use; monitoring of maternal and foetal condition(frequency); labour augmentation; episiotomies; management of third stage of labour;
Q102	When a woman comes with normal labour, what are some of the things that you will encourage her to do? (Probe for: emptying of the bladder; bathing and cleaning; movement during labour and its advantages; labour position; oral fluids; IV fluids)
Q103	What are the challenges that the health care personnel are faced with in carrying out their duties in this labour ward? (Probe for: workload; staff; space; equipment; drugs;
Q104	What will you recommend for better services for women coming to deliver in this hospital and why? Probe for: labour companion; supervision; training; guidelines)

Appendix 4: WHO classification of practices in normal birth

This chapter classifies the practices common in the conduct of normal childbirth into four categories, dependent on their usefulness, effectiveness and harmfulness. The classification reflects the views of the Technical Working Group on Normal Birth.

CATEGORY A: Practices which are demonstrably useful and should be encouraged

1. A personal plan determining where and by whom birth will be attended, made with the woman during pregnancy and made known to her husband/partner and, if applicable, to the family
2. Risk assessment of pregnancy during prenatal care, re-evaluated at each contact with the health system and at the time of the first contact with the caregiver during labour, and throughout labour
3. Monitoring the woman's physical and emotional well-being throughout labour and delivery, and at the conclusion of the birth process
4. Offering oral fluids during labour and delivery
5. Respecting women's informed choice of place of birth
6. Providing care in labour and delivery at the most peripheral level where birth is feasible and safe and where the woman feels safe and confident
7. Respecting the right of women to privacy in the birthing place
8. Empathic support by caregivers during labour and birth
9. Respecting women's choice of companions during labour and birth
10. Giving women as much information and explanation as they desire
11. Non-invasive, non-pharmacological methods of pain relief during labour, such as massage and relaxation techniques

12. Foetal monitoring with intermittent auscultation
13. Single use of disposable materials and appropriate decontamination of reusable materials throughout labour and delivery
14. Use of gloves in vaginal examination, during delivery of the baby and in handling the placenta
15. Freedom in position and movement throughout labour
16. Encouragement of non-supine position in labour
17. Careful monitoring of the progress of labour, for instance by the use of the WHO partograph
18. Prophylactic oxytocin in the third stage of labour in women with a risk of postpartum haemorrhage, or endangered by even a small amount of blood loss (5.2, 5.4).
19. Sterility in the cutting of the cord
20. Prevention of hypothermia of the baby
21. Early skin-to-skin contact between mother and child and support of the initiation of breast-feeding within 1 hour postpartum in accordance with the WHO guidelines on breast-feeding
22. Routine examination of the placenta and the membranes.

CATEGORY B: Practices which are clearly harmful or ineffective and should be eliminated

1. Routine use of enema.
2. Routine use of pubic shaving.
3. Routine intravenous infusion in labour.
4. Routine prophylactic insertion of intravenous cannula.
5. Routine use of the supine position during labour.
6. Rectal examination.
7. Use of X-ray pelvimetry.
8. Administration of Oxytocics at any time before delivery in such a way that their effect cannot be controlled
9. Routine use of lithotomy position with or without stirrups during labour.
10. Sustained, directed bearing down efforts (Valsalva manoeuvre) during the second stage of labour
11. Massaging and stretching the perineum during the second stage of labour.
12. Use of oral tablets of ergometrine in the third stage of labour to prevent or control haemorrhage.
13. Routine use of parenteral ergometrine in the third stage of labour.
14. Routine lavage of the uterus after delivery.
15. Routine revision (manual exploration) of the uterus after delivery.

CATEGORY C: Practices for which insufficient evidence exists to support a clear recommendation and which should be used with caution while further research clarifies the issue

1. Non-pharmacological methods of pain relief during labour, such as herbs, immersion in water and nerve stimulation.
2. Routine early amniotomy in the first stage of labour.
3. Fundal pressure during labour.
4. Manoeuvres related to protecting the perineum and the management of the foetal head at the moment of birth.

5. Active manipulation of the fetus at the moment of birth.
6. Routine oxytocin, controlled cord traction, or combination of the two during the third stage of labour.
7. Early clamping of the umbilical cord.
8. Nipple stimulation to increase uterine contractions during the third stage of labour.

CATEGORY D: Practices which are frequently used inappropriately

1. Restriction of food and fluids during labour.
2. Pain control by systemic agents.
3. Pain control by epidural analgesia.
4. Electronic foetal monitoring.
5. Wearing masks and sterile gowns during labour attendance.
6. Repeated or frequent vaginal examinations especially by more than one caregiver.
7. Oxytocin augmentation.
8. Routinely moving the labouring woman to a different room at the onset of the second stage.
9. Bladder catheterization.
10. Encouraging the woman to push when full dilatation or nearly full dilatation of the cervix has been diagnosed, before the woman feels the urge to bear down herself.
11. Rigid adherence to a stipulated duration of the second stage of labour, such as 1 hour, if maternal and foetal conditions are good and if there is progress of labour.
12. Operative delivery.
13. Liberal or routine use of episiotomy.
14. Manual exploration of the uterus after delivery.

Appendix 5: Information sheet for participants

STATEMENT OF THE STUDY

PURPOSE

I am a nurse midwife and a researcher currently studying at the University of Oslo in Norway.

We invite you to participate in the study ” The practices during childbirth”. The objective of this study is to assess the practices during childbirth in Royal Victoria Teaching Hospital.

PROCEDURES

Specifically we are going to observe or ask you about the practices that are carried out by the health care provider whilst you are admitted in the labour ward.

The information about what we observe or you provide during the study will be kept confidential. Only the Principal Investigator and the interviewers will have access to the information.

The information will be kept under lock and key by the Principal Investigator during the course of the study.

BENEFITS OF THE STUDY

By participating in this study either being observed the health care provider carries his/her procedures or answering our questions, you will help to increase our understanding of the needs of women coming to deliver in this hospital. We hope that the results of this study will improve the delivery services currently available to women.

Your participation in this study is voluntary and you have the right to refuse to participate or answer any question that you feel uncomfortable with. If you change your mind about participating during the course of the study, you have the right to withdraw at any time. The decision to withdraw will not affect any future medical care you should require.

If there is anything that is not clear or you need further information, we shall be delighted to provide it.

[Observer or interviewer asks if the woman to be observed or giving the information has any question and provide the necessary answers].

DECLARATION OF THE PARTICIPANT

I have read the above information, or it has been read to me. I have been given the chance to ask questions about the study and any question that I have asked has been answered to my satisfaction. Therefore, I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without in anyway affecting my further medical care.

Signature volunteer:

Signature of observer/interviewer:

Date:

Date: